US009105003B2

(12) **United States Patent**
Berichon et al.

(10) **Patent No.: US 9,105,003 B2**
(45) **Date of Patent: Aug. 11, 2015**

(54) **FREIGHT TRACKING AND CONTROL SYSTEM**

(75) Inventors: **Jeffrey Berichon**, Kirtland, OH (US); **Lance T. Pfeifer**, Ft. Lauderdale, FL (US); **Michael O'Flaherty**, Streetsboro, OH (US)

(73) Assignee: **BearWare, Inc.**, Chagrin Fallas, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 2595 days.

(21) Appl. No.: **10/755,218**

(22) Filed: **Jan. 12, 2004**

(65) **Prior Publication Data**

US 2004/0199285 A1 Oct. 7, 2004

Related U.S. Application Data

(60) Provisional application No. 60/439,130, filed on Jan. 10, 2003.

(51) **Int. Cl.**

G06Q 10/08	(2012.01)
G06Q 20/20	(2012.01)
G06Q 30/06	(2012.01)
G06Q 10/06	(2012.01)

(52) **U.S. Cl.**

CPC ***G06Q 10/087*** (2013.01); ***G06Q 10/06*** (2013.01); ***G06Q 10/08*** (2013.01); *G06Q 20/203* (2013.01); *G06Q 30/0635* (2013.01)

(58) **Field of Classification Search**

CPC ... G06Q 10/087; G06Q 10/08; G06Q 20/203; G06Q 30/0635; G06Q 10/06

USPC 705/1, 28, 22, 29; 700/213–220, 222

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,026,378	A *	2/2000	Onozaki	705/28
6,285,916	B1 *	9/2001	Kadaba et al.	700/222
6,988,079	B1 *	1/2006	Or-Bach et al.	705/28
7,257,552	B1 *	8/2007	Franco	705/28
2002/0010661	A1 *	1/2002	Waddington et al.	705/28
2004/0138921	A1 *	7/2004	Broussard et al.	705/2
2004/0153379	A1 *	8/2004	Joyce et al.	705/28

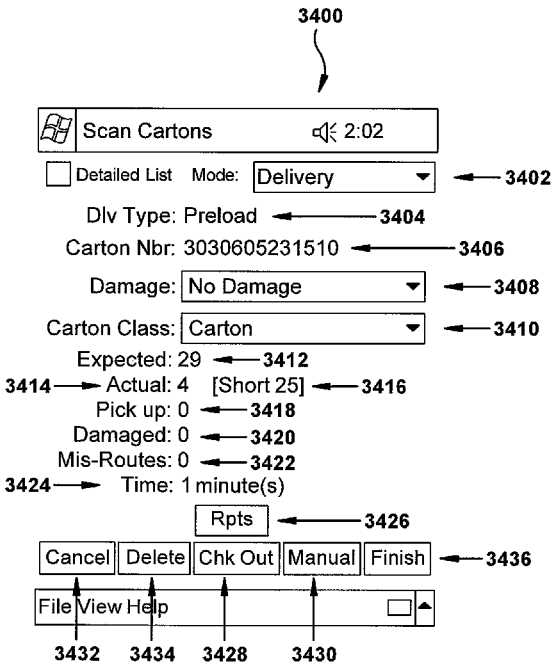
* cited by examiner

Primary Examiner — Ryan Zeender
Assistant Examiner — H Rojas
(74) *Attorney, Agent, or Firm* — Tucker Ellis LLP

(57) **ABSTRACT**

An electronic system for managing items in a supply chain. The system generally includes item information capturing means, such as a handheld device, adapted for capturing identification information associated with an item identified for supply chain management; mode specifying means adapted for receiving user input representative of a selection of at least one of a plurality of capturing modes, wherein each capturing mode is adapted for creating associated information by associating the captured item information with supply chain information; and transferring means adapted for transferring the associated information to an electronic storage device.

24 Claims, 99 Drawing Sheets



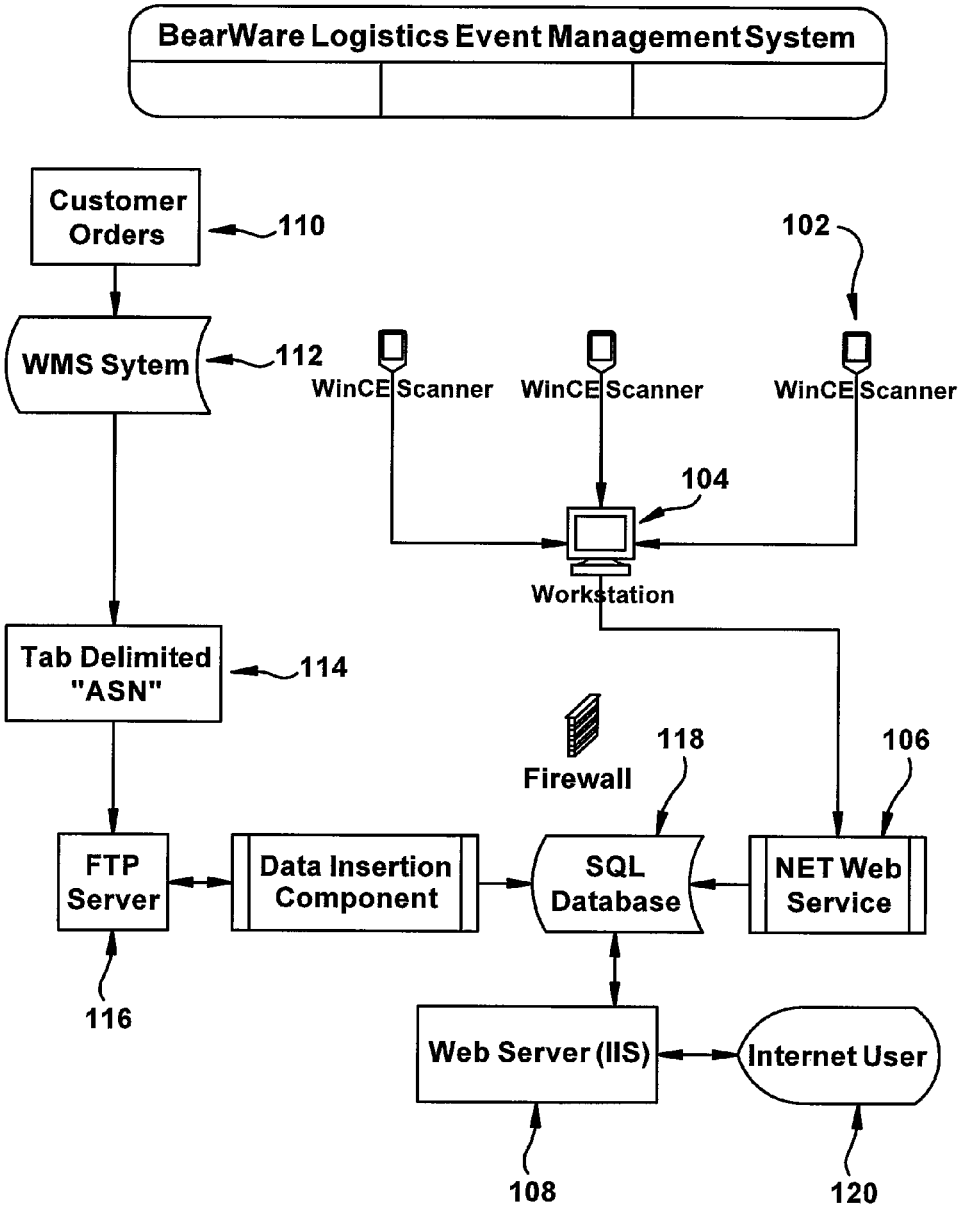

BearWare Logistics Event Management System
Customer Orders
110
102
WMS Sytem
112
WinCE Scanner
WinCE Scanner
WinCE Scanner
104
Workstation
Tab Delimited "ASN"
114
Firewall
118
106
FTP Server
Data Insertion Component
SQL Database
NET Web Service
116
Web Server (IIS)
Internet User
108
120

Figure 1

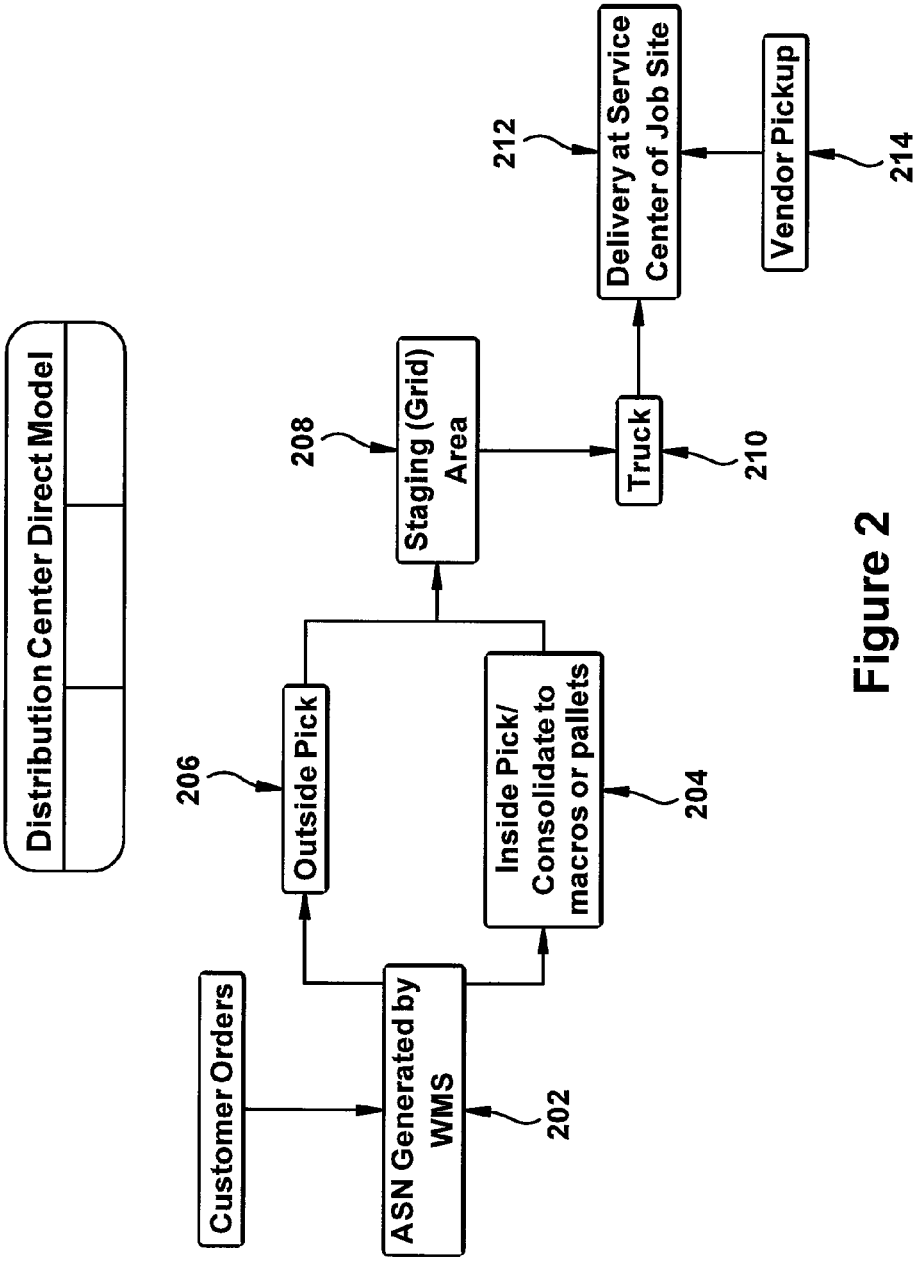

Distribution Center Direct Model
Customer Orders
ASN Generated by WMS
202
Outside Pick
206
Inside Pick/ Consolidate to macros or pallets
204
Staging (Grid) Area
208
Truck
210
Delivery at Service Center of Job Site
212
Vendor Pickup
214

Figure 2

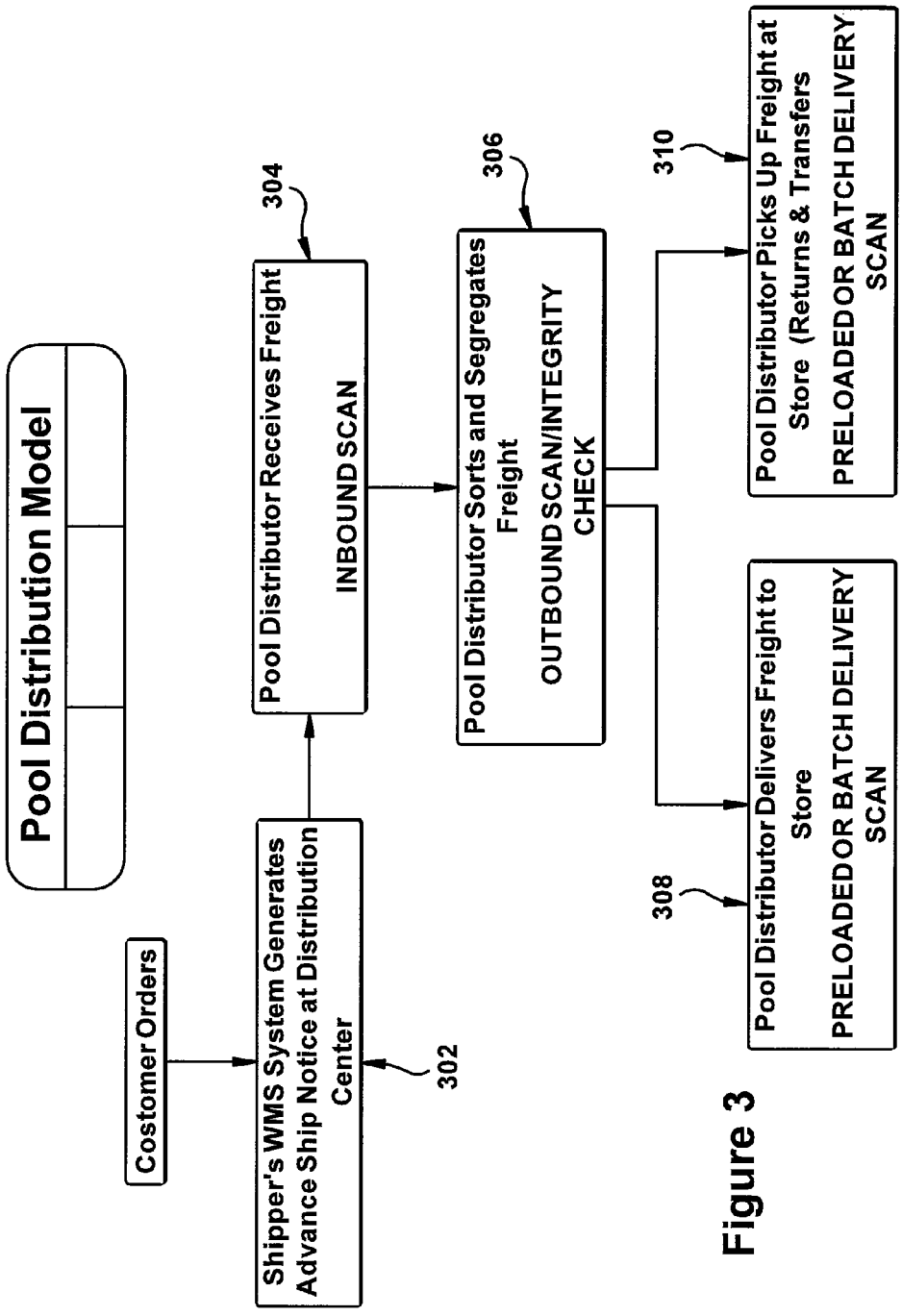

Pool Distribution Model
Costomer Orders
Shipper's WMS System Generates Advance Ship Notice at Distribution Center
302
Pool Distributor Receives Freight
INBOUND SCAN
304
Pool Distributor Sorts and Segregates Freight
OUTBOUND SCAN/INTEGRITY CHECK
306
308
Pool Distributor Delivers Freight to Store
PRELOADEDOR BATCH DELIVERY SCAN
310
Pool Distributor Picks Up Freight at Store (Returns & Transfers
PRELOADEDOR BATCH DELIVERY SCAN

Figure 3

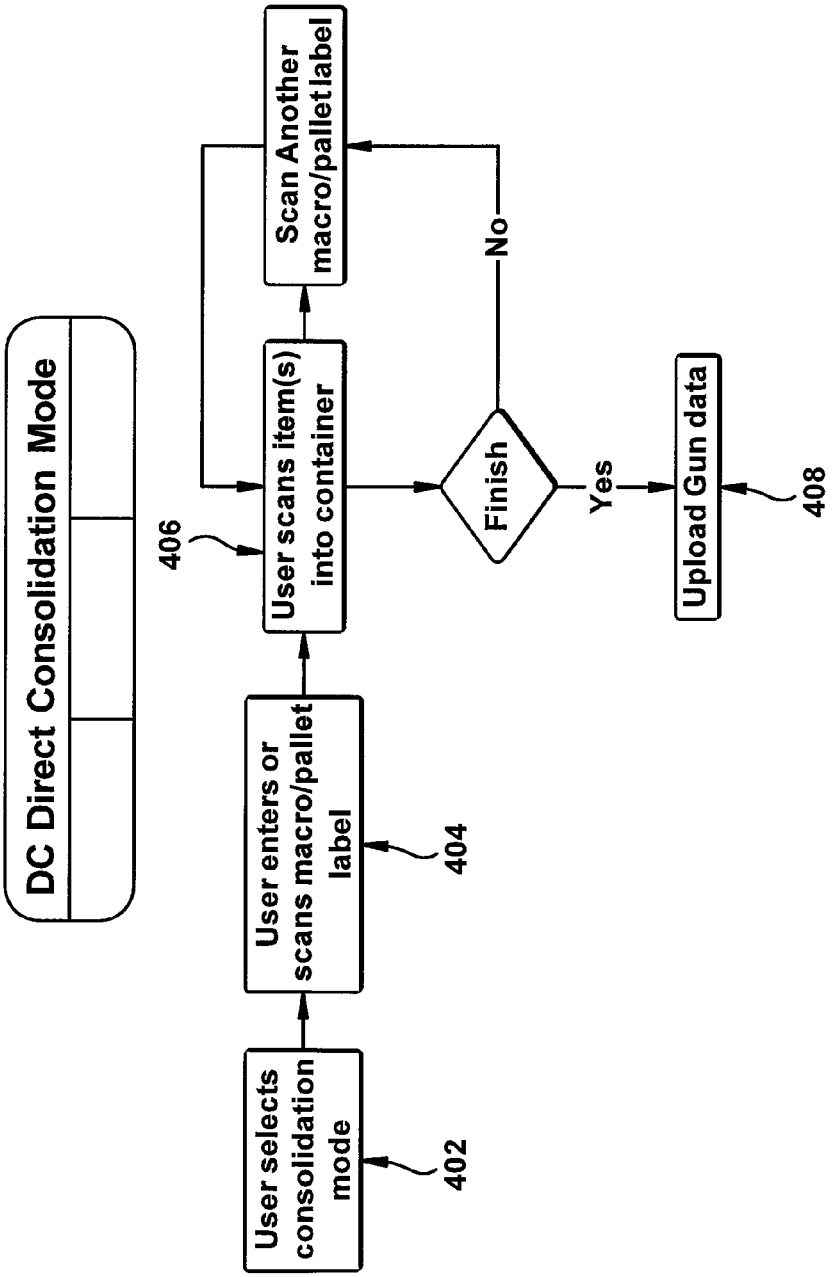

DC Direct Consolidation Mode
User selects consolidation mode
402
User enters or scans macro/pallet label
404
User scans item(s) into container
406
Scan Another macro/pallet label
No
Finish
Yes
Upload Gun data
408

Figure 4

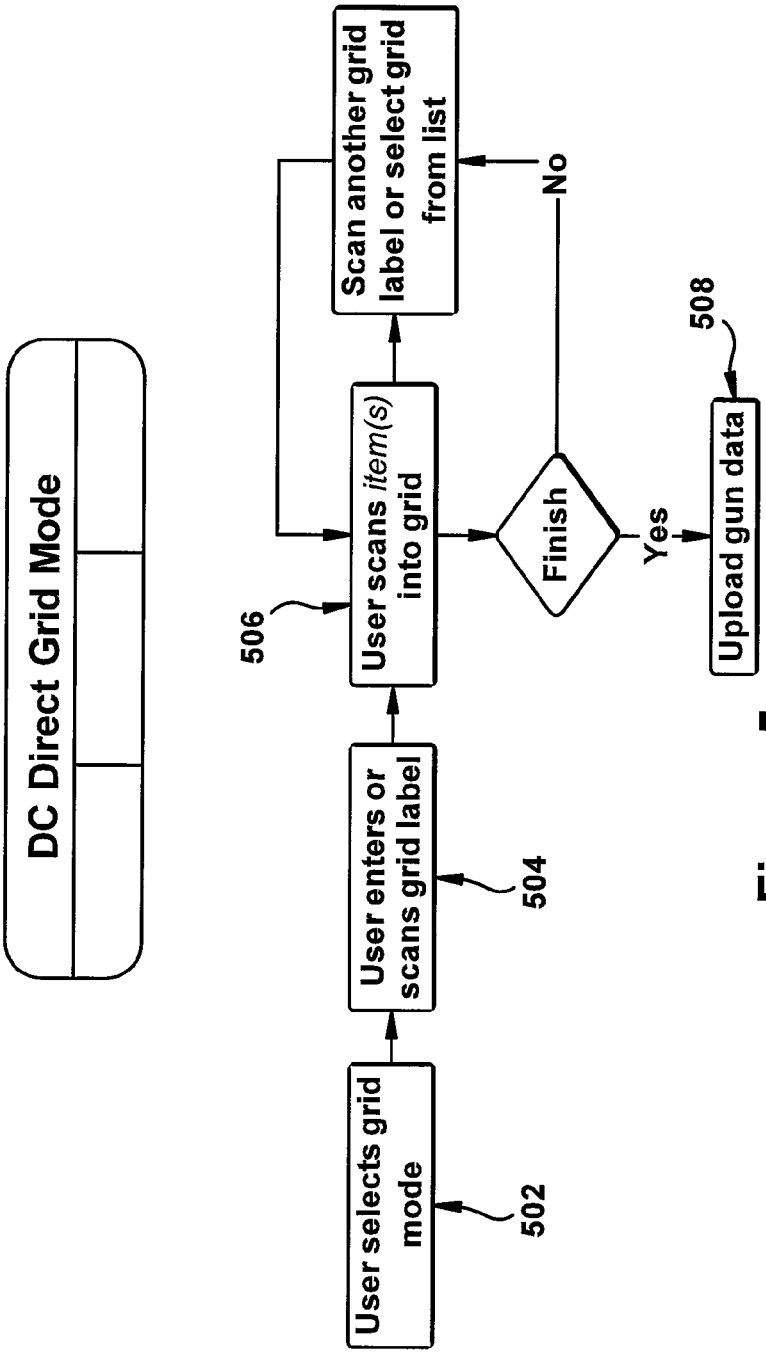

DC Direct Grid Mode
User selects grid mode
502
User enters or scans grid label
504
User scans item(s) into grid
506
Finish
No
Yes
Scan another grid label or select grid from list
Upload gun data
508

Figure 5

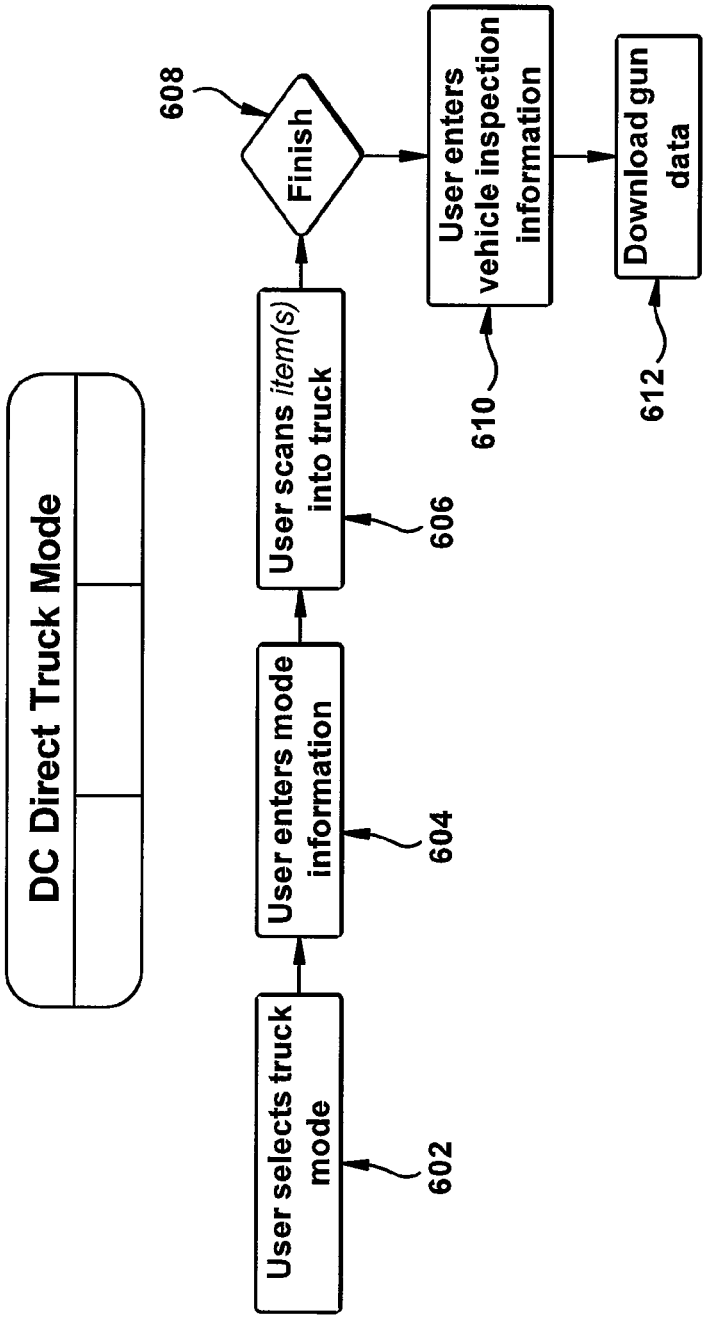

DC Direct Truck Mode
User selects truck mode
602
User enters mode information
604
User scans item(s) into truck
606
Finish
608
User enters vehicle inspection information
610
Download gun data
612

Figure 6

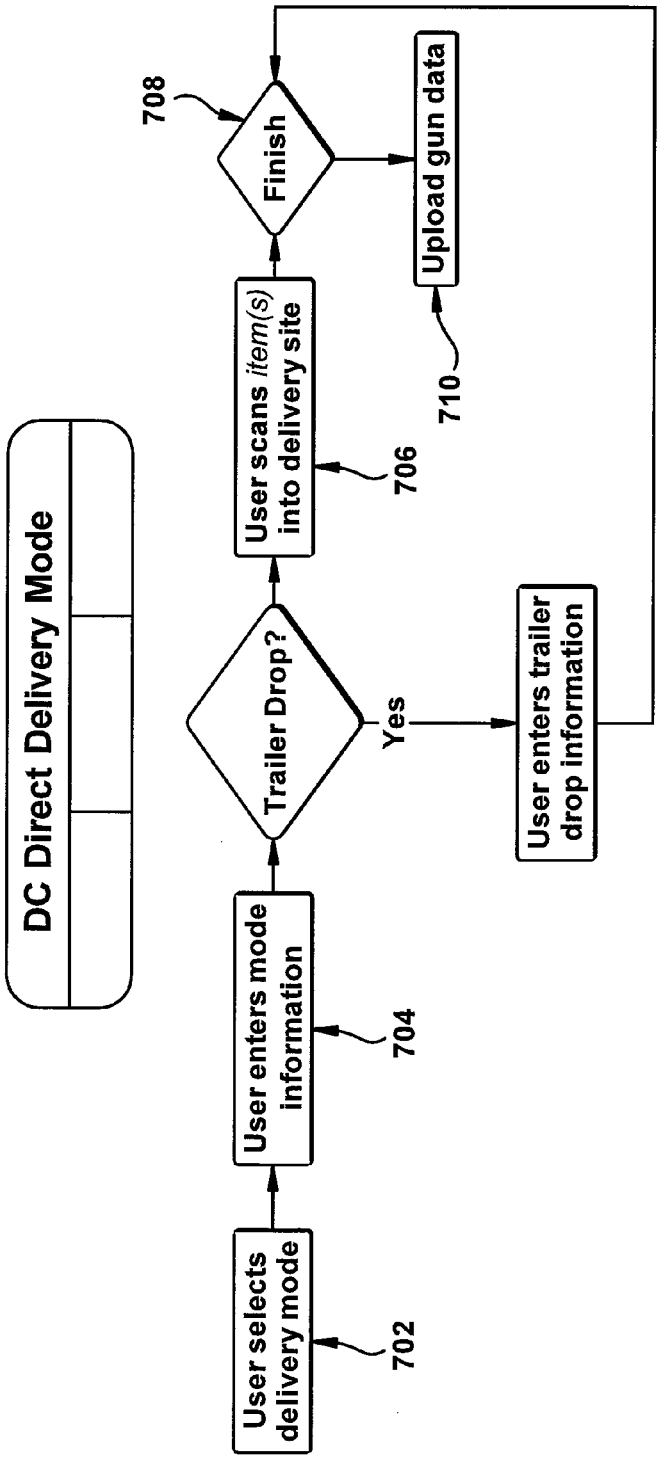

DC Direct Delivery Mode
User selects delivery mode
702
User enters mode information
704
Trailer Drop?
Yes
User enters trailer drop information
User scans item(s) into delivery site
706
Finish
708
Upload gun data
710

Figure 7

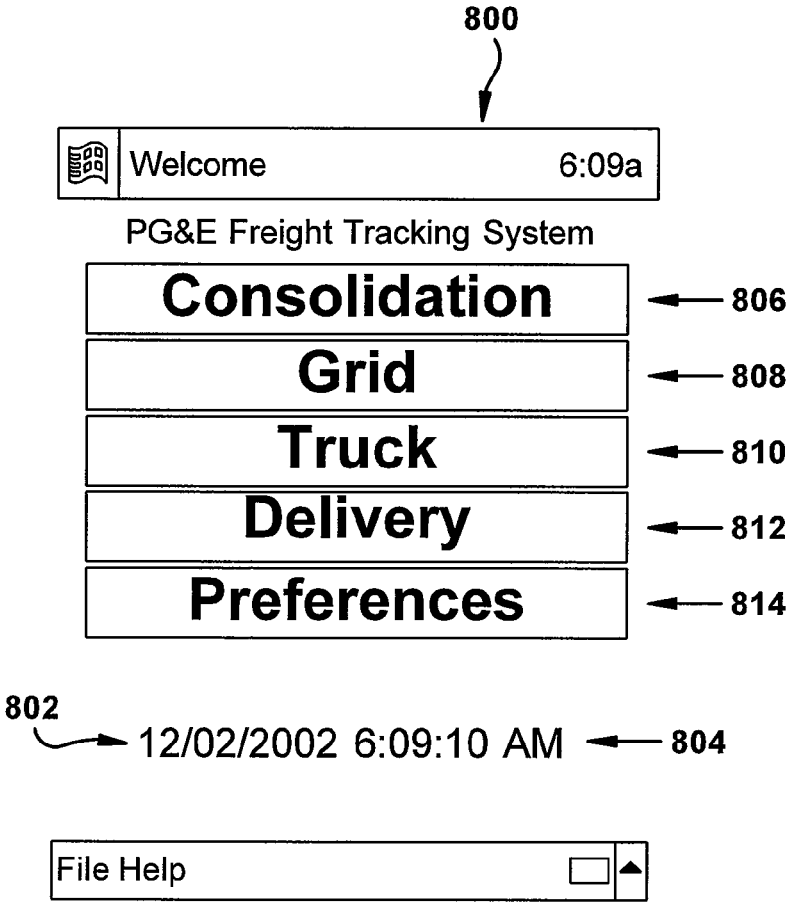

800
Welcome
6:09a
PG&E Freight Tracking System
Consolidation
806
Grid
808
Truck
810
Delivery
812
Preferences
814
802
12/02/2002 6:09:10 AM
804
File Help

Figure 8

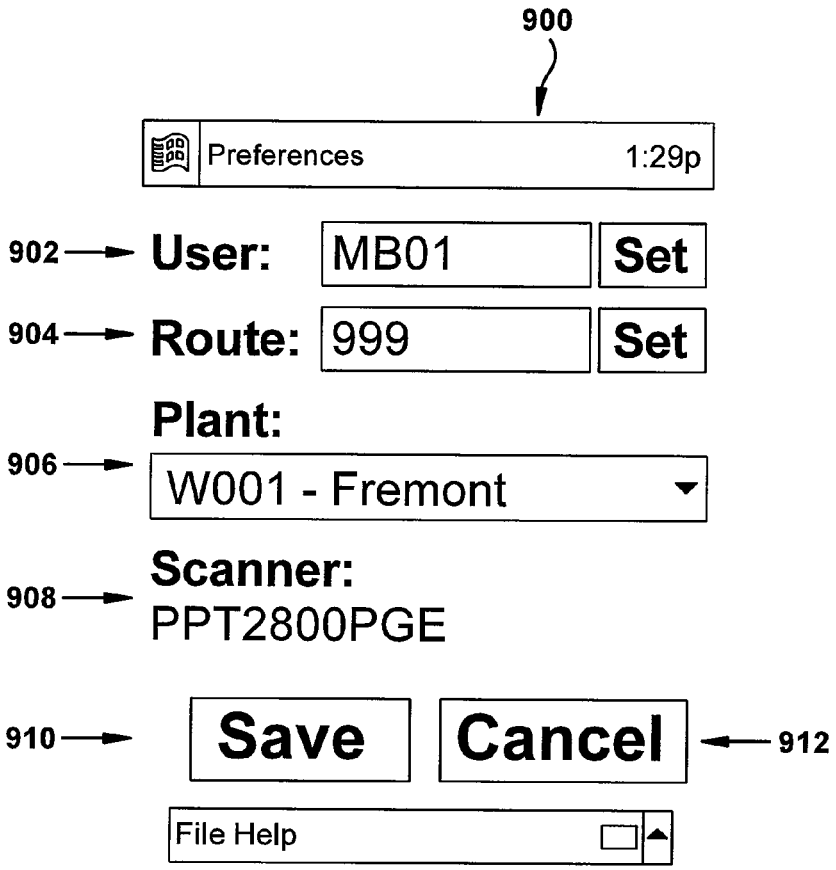

900
Preferences
1:29p
902
User:
MB01
Set
904
Route:
999
Set
Plant:
906
W001 - Fremont
908
Scanner:
PPT2800PGE
910
Save
Cancel
912
File Help

Figure 9

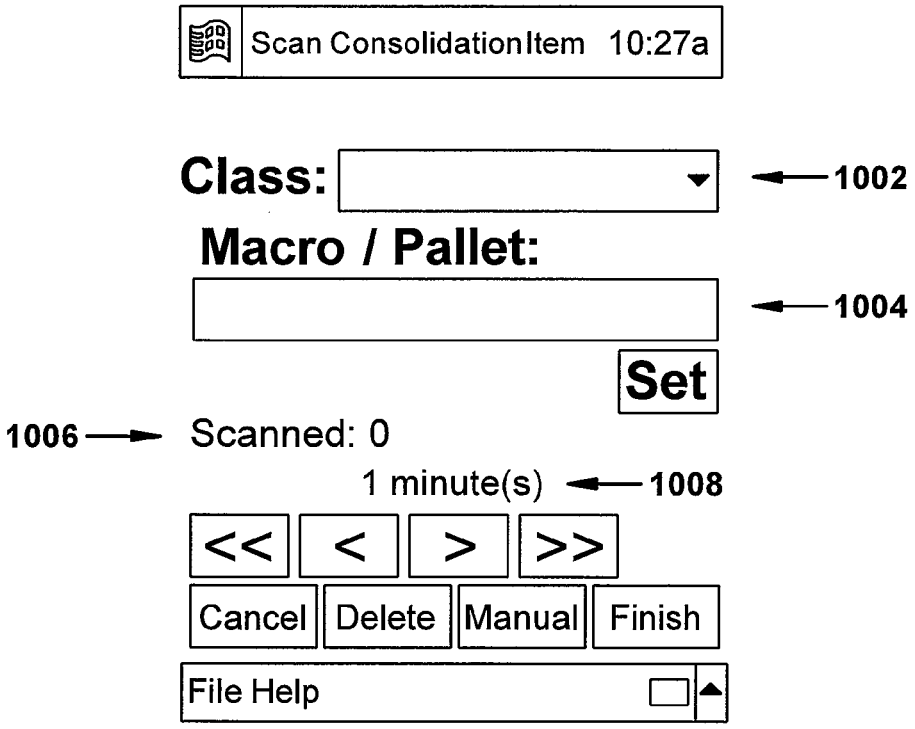

Scan Consolidation Item 10:27a
Class:
1002
Macro / Pallet:
1004
Set
1006
Scanned: 0
1 minute(s)
1008
<<
<
>
>>
Cancel
Delete
Manual
Finish
File Help

Figure 10

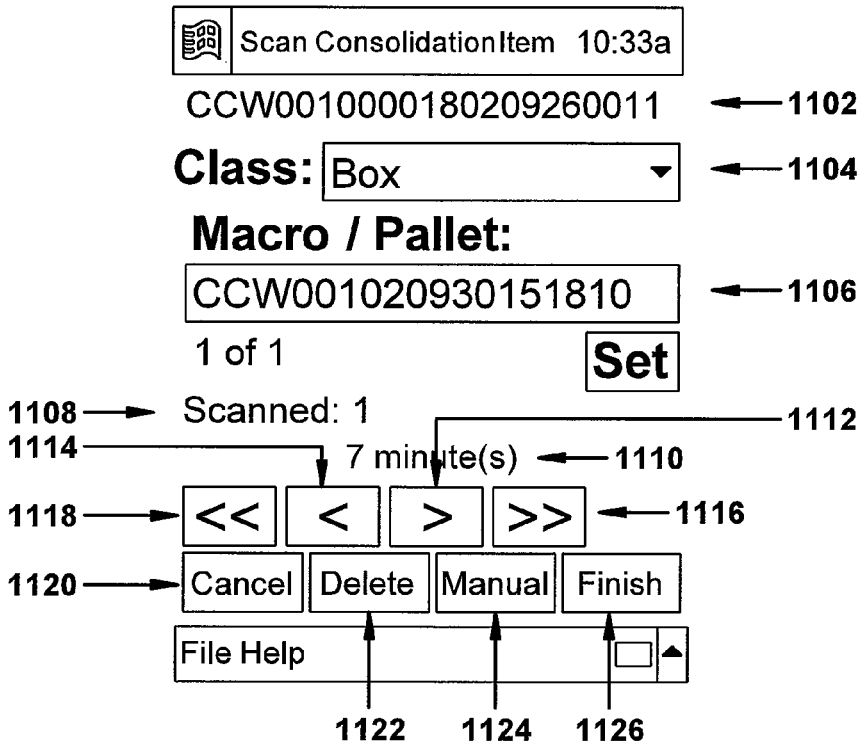

Scan Consolidation Item 10:33a
CCW00100001802092600 11
1102
Class: Box
1104
Macro / Pallet:
CCW001020930151810
1106
1 of 1
Set
1108
Scanned: 1
1112
1114
7 minute(s)
1110
1118
<<
<
>
>>
1116
1120
Cancel
Delete
Manual
Finish
File Help
1122
1124
1126

Figure 11

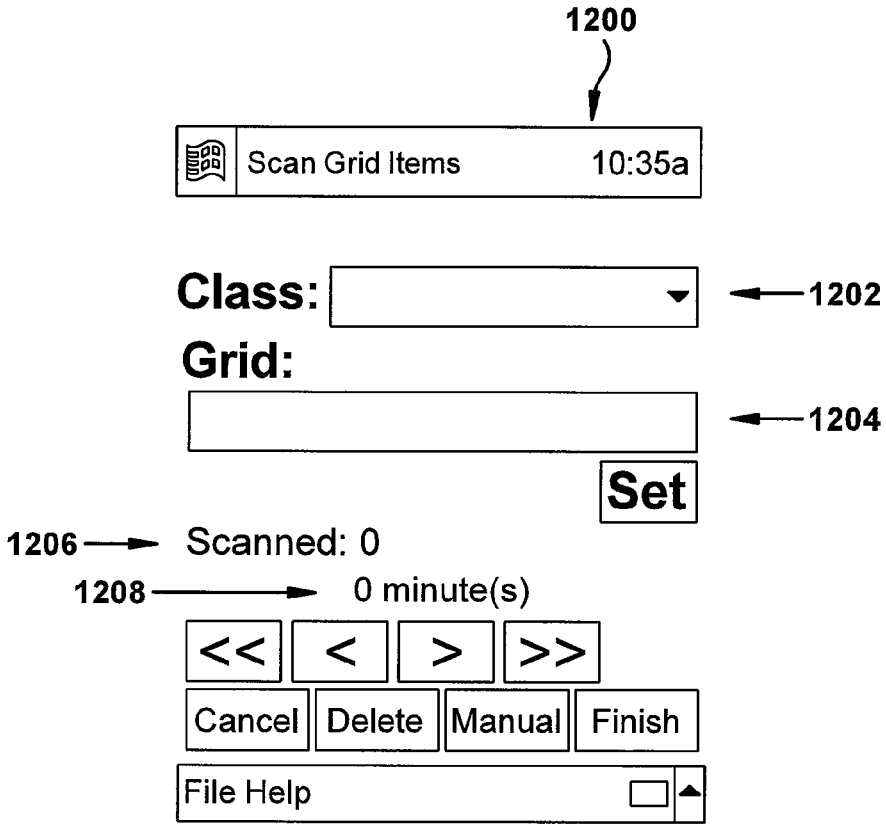

1200
Scan Grid Items
10:35a
Class:
1202
Grid:
1204
Set
1206
Scanned: 0
1208
0 minute(s)
<<
<
>
>>
Cancel
Delete
Manual
Finish
File Help

Figure 12

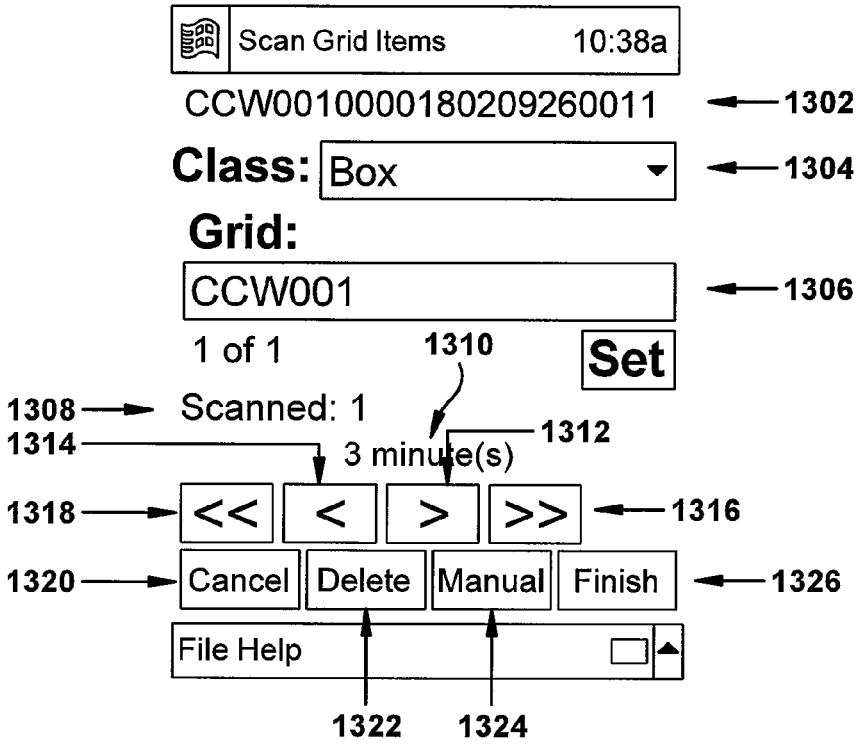

Scan Grid Items 10:38a
CCW00100001802092600 11
1302
Class: Box
1304
Grid:
CCW001
1306
1 of 1
1310
Set
1308
Scanned: 1
1314
3 minute(s)
1312
1318
<<
<
>
>>
1316
1320
Cancel
Delete
Manual
Finish
1326
File Help
1322
1324

Figure 13

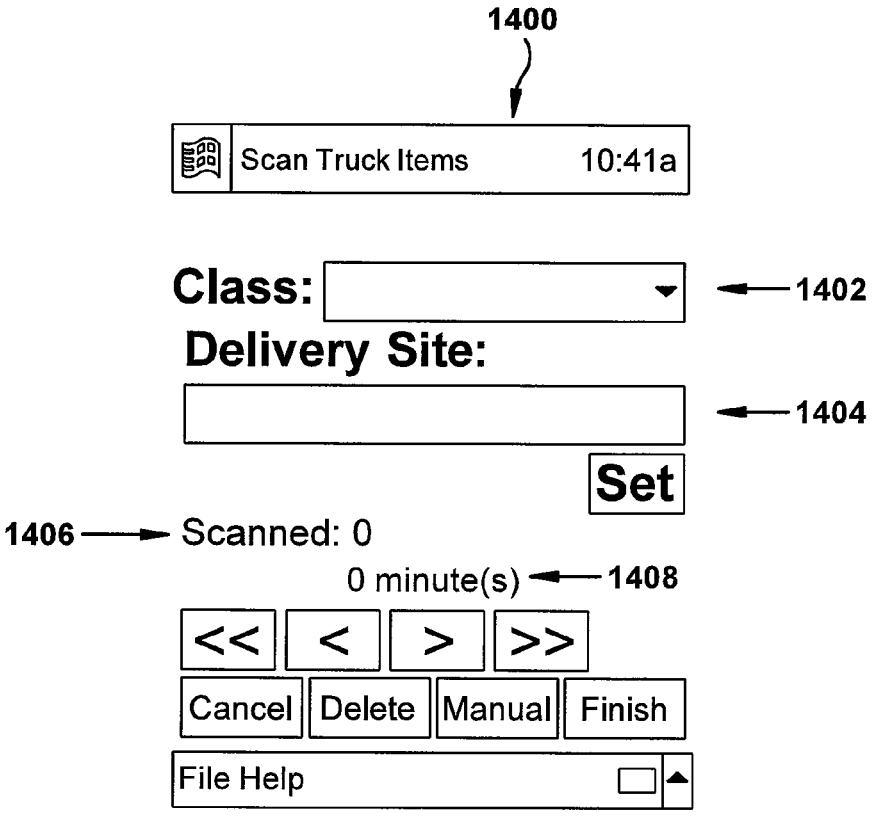

1400
Scan Truck Items
10:41a
Class:
1402
Delivery Site:
1404
Set
1406
Scanned: 0
0 minute(s)
1408
<<
<
>
>>
Cancel
Delete
Manual
Finish
File Help

Figure 14

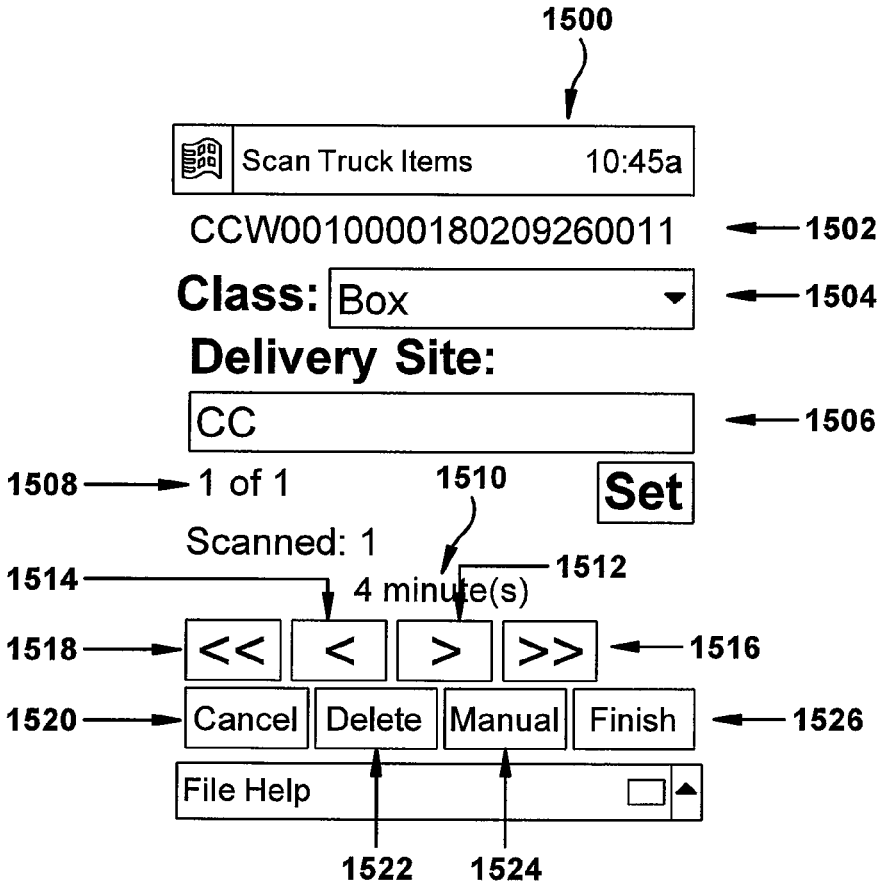

1500
Scan Truck Items 10:45a
CCW00100001802092600 11
1502
Class: Box
1504
Delivery Site:
CC
1506
1508
1 of 1
1510
Set
Scanned: 1
1514
4 minute(s)
1512
1518
<<
<
>
>>
1516
1520
Cancel
Delete
Manual
Finish
1526
File Help
1522
1524

Figure 15

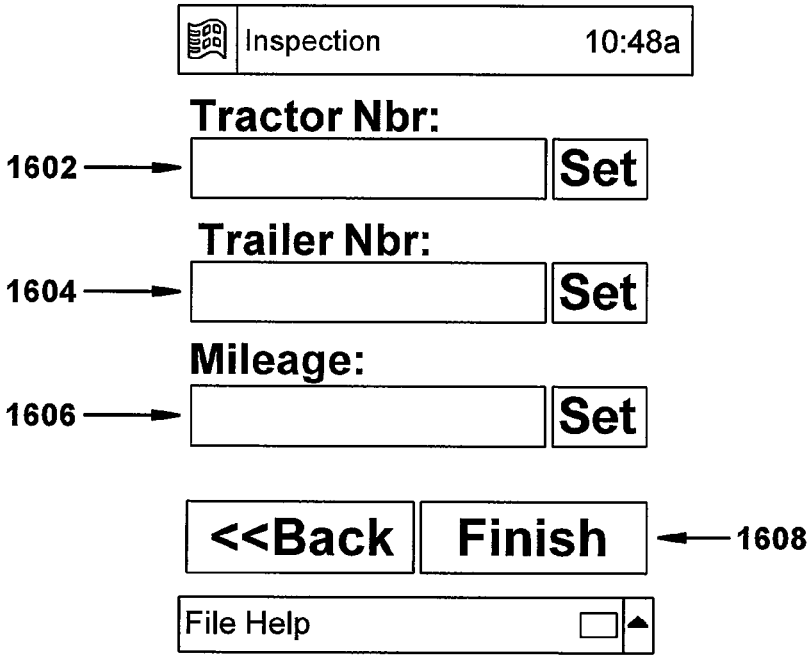

Inspection
10:48a
Tractor Nbr:
1602
Set
Trailer Nbr:
1604
Set
Mileage:
1606
Set
<<Back
Finish
1608
File Help

Figure 16

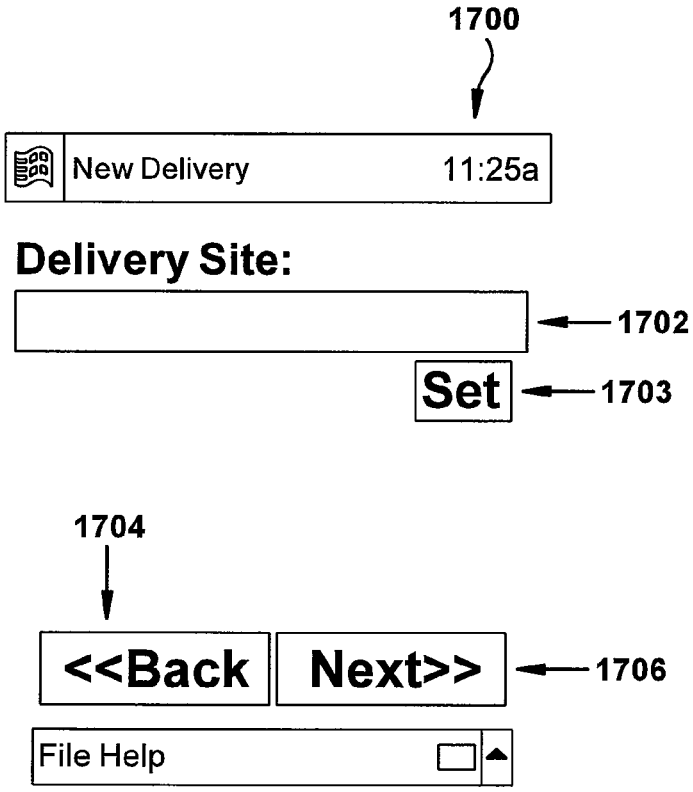

1700
New Delivery
11:25a
Delivery Site:
1702
Set
1703
1704
<<Back
Next>>
1706
File Help

Figure 17

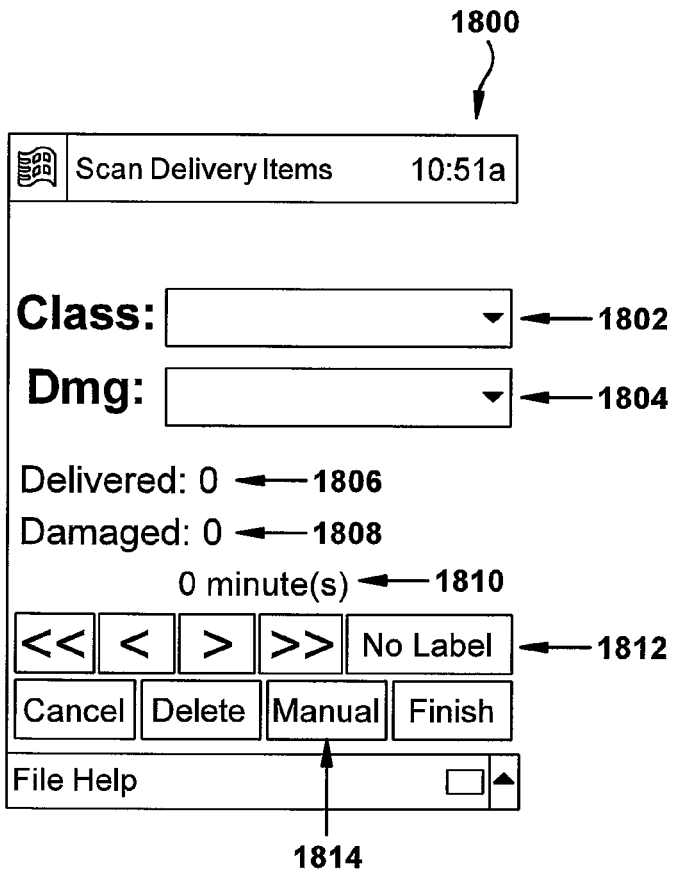

1800
Scan Delivery Items
10:51a
Class:
1802
Dmg:
1804
Delivered: 0
1806
Damaged: 0
1808
0 minute(s)
1810
<<
<
>
>>
No Label
1812
Cancel
Delete
Manual
Finish
File Help
1814

Figure 18

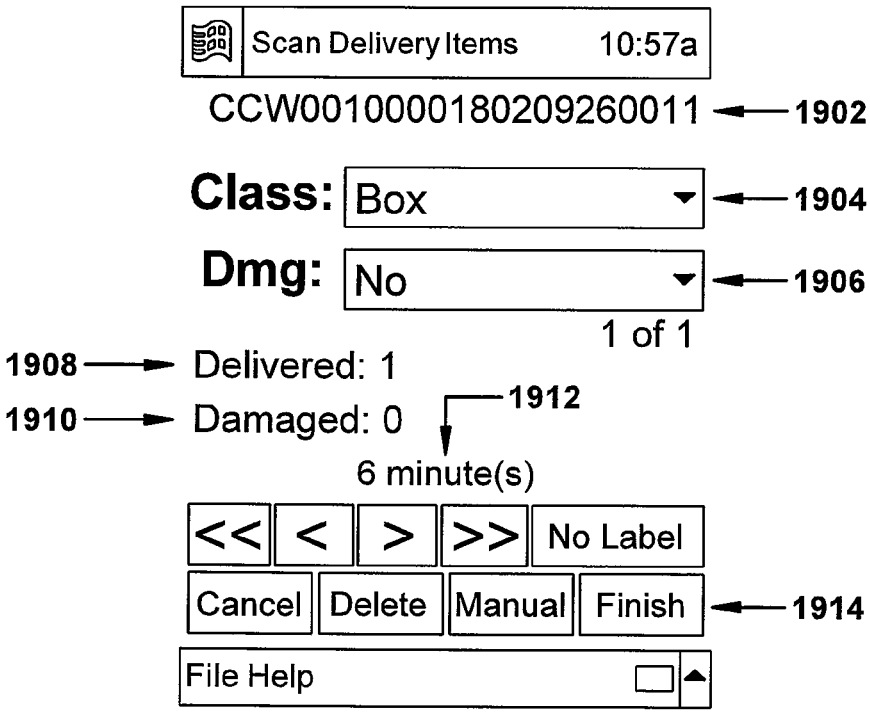

Scan Delivery Items 10:57a
CCW00100001802092600 11
1902
Class: Box
1904
Dmg: No
1906
1 of 1
1908
Delivered: 1
1910
Damaged: 0
1912
6 minute(s)
<<
<
>
>>
No Label
Cancel
Delete
Manual
Finish
1914
File Help

Figure 19

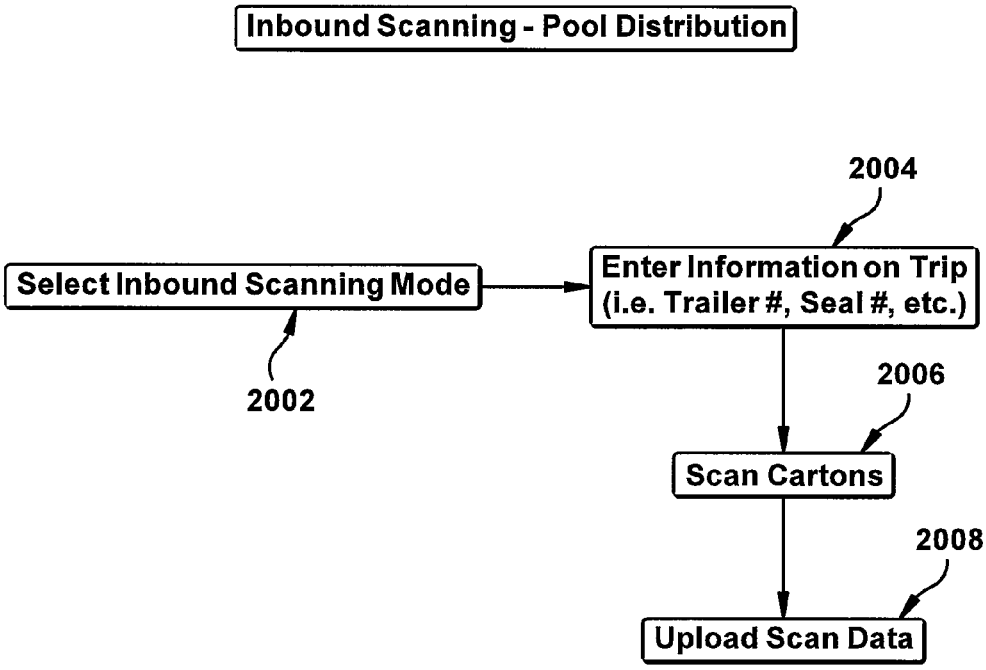

Inbound Scanning - Pool Distribution
2004
Select Inbound Scanning Mode
Enter Information on Trip (i.e. Trailer #, Seal #, etc.)
2002
2006
Scan Cartons
2008
Upload Scan Data

Figure 20

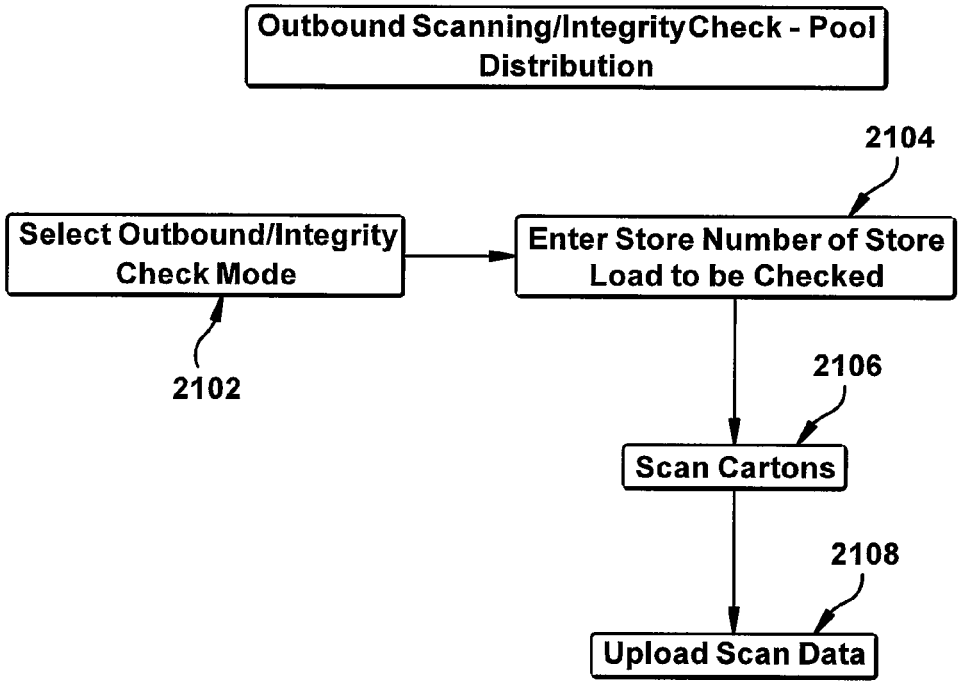

Outbound Scanning/Integrity Check - Pool Distribution
2104
Select Outbound/Integrity Check Mode
Enter Store Number of Store Load to be Checked
2102
2106
Scan Cartons
2108
Upload Scan Data

Figure 21

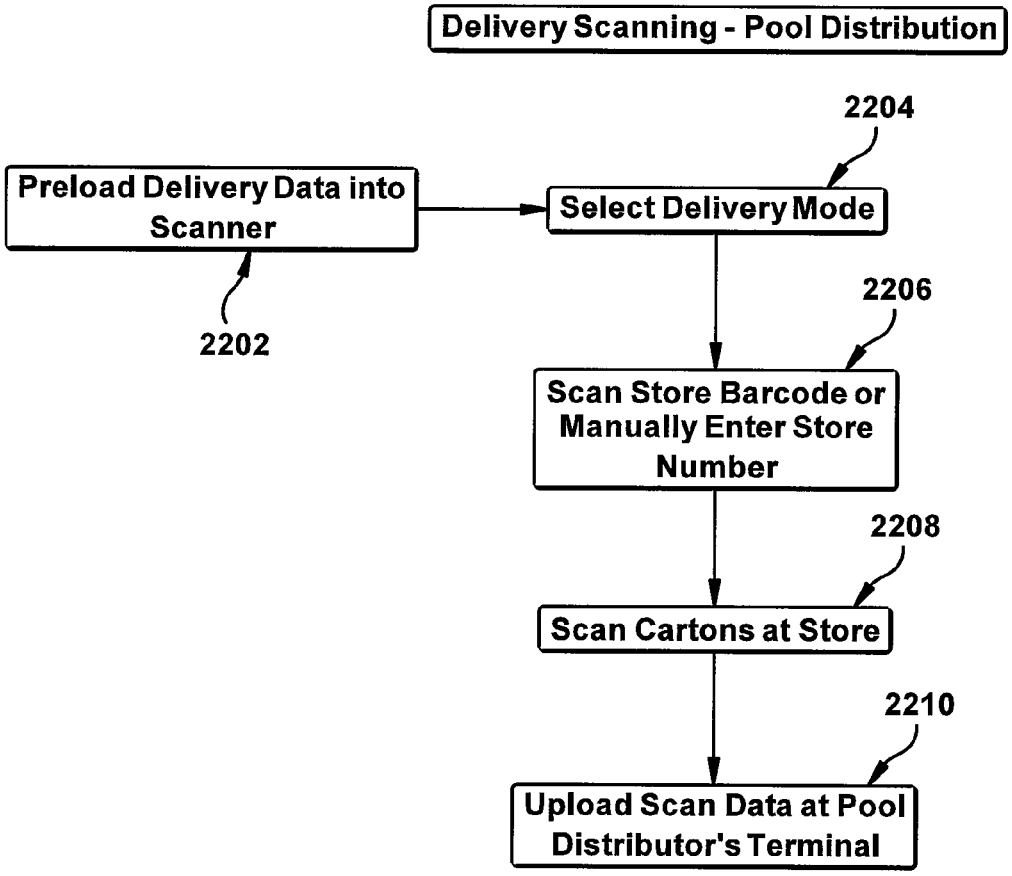

Delivery Scanning - Pool Distribution
2204
Preload Delivery Data into Scanner
Select Delivery Mode
2202
2206
Scan Store Barcode or Manually Enter Store Number
2208
Scan Cartons at Store
2210
Upload Scan Data at Pool Distributor's Terminal

Figure 22

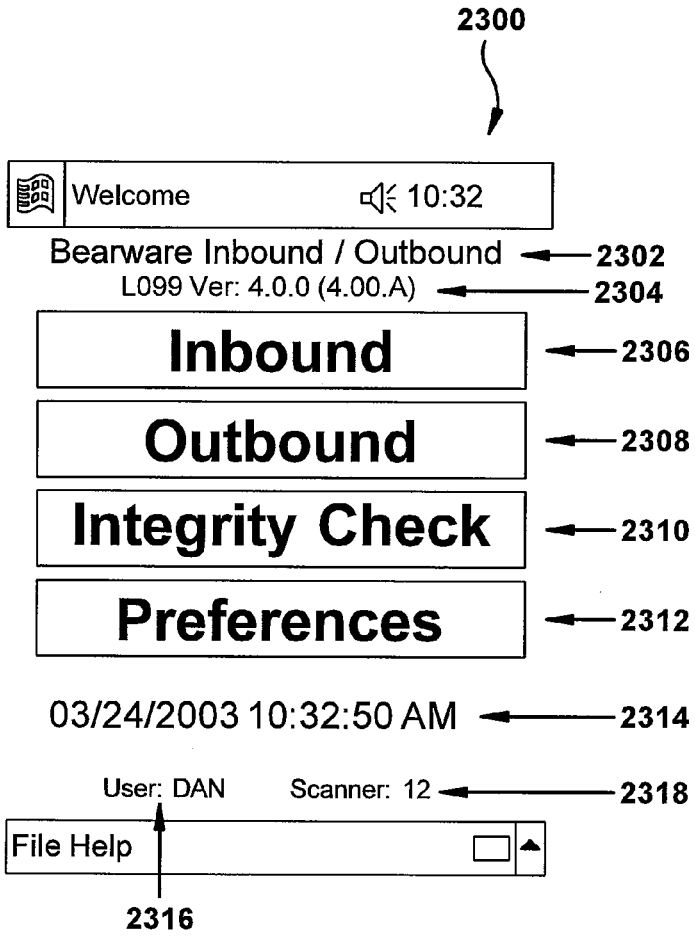

2300
Welcome
10:32
Bearware Inbound / Outbound
2302
L099 Ver: 4.0.0 (4.00.A)
2304
Inbound
2306
Outbound
2308
Integrity Check
2310
Preferences
2312
03/24/2003 10:32:50 AM
2314
User: DAN
Scanner: 12
2318
File Help
2316

Figure 23

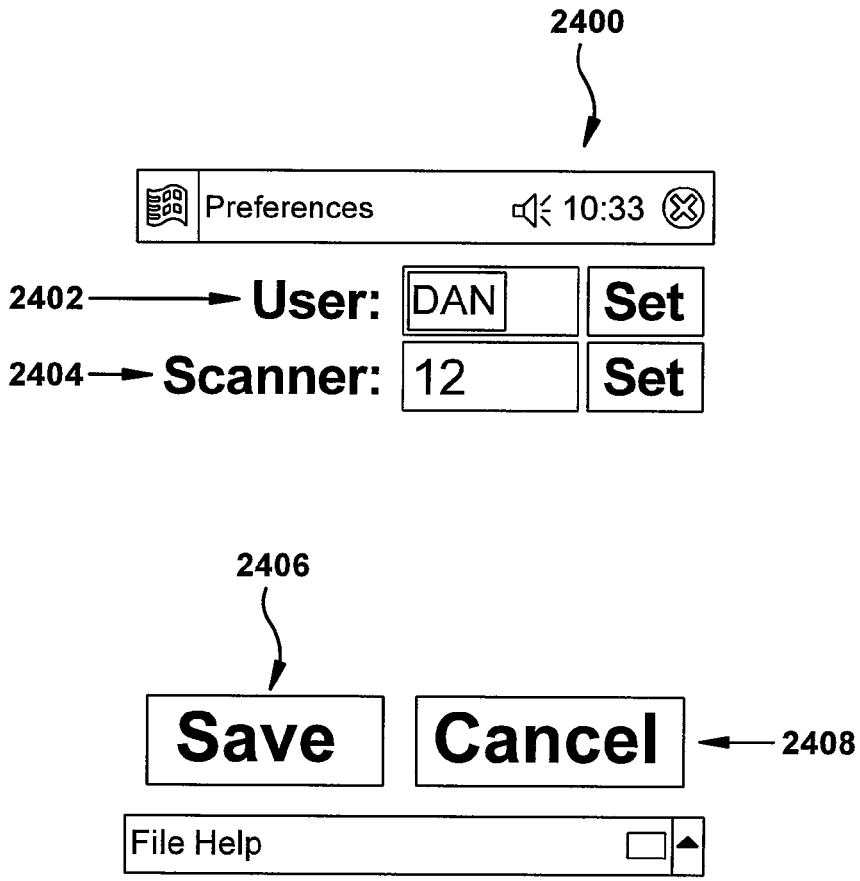

2400
Preferences
10:33
2402
User:
DAN
Set
2404
Scanner:
12
Set
2406
Save
Cancel
2408
File Help

Figure 24

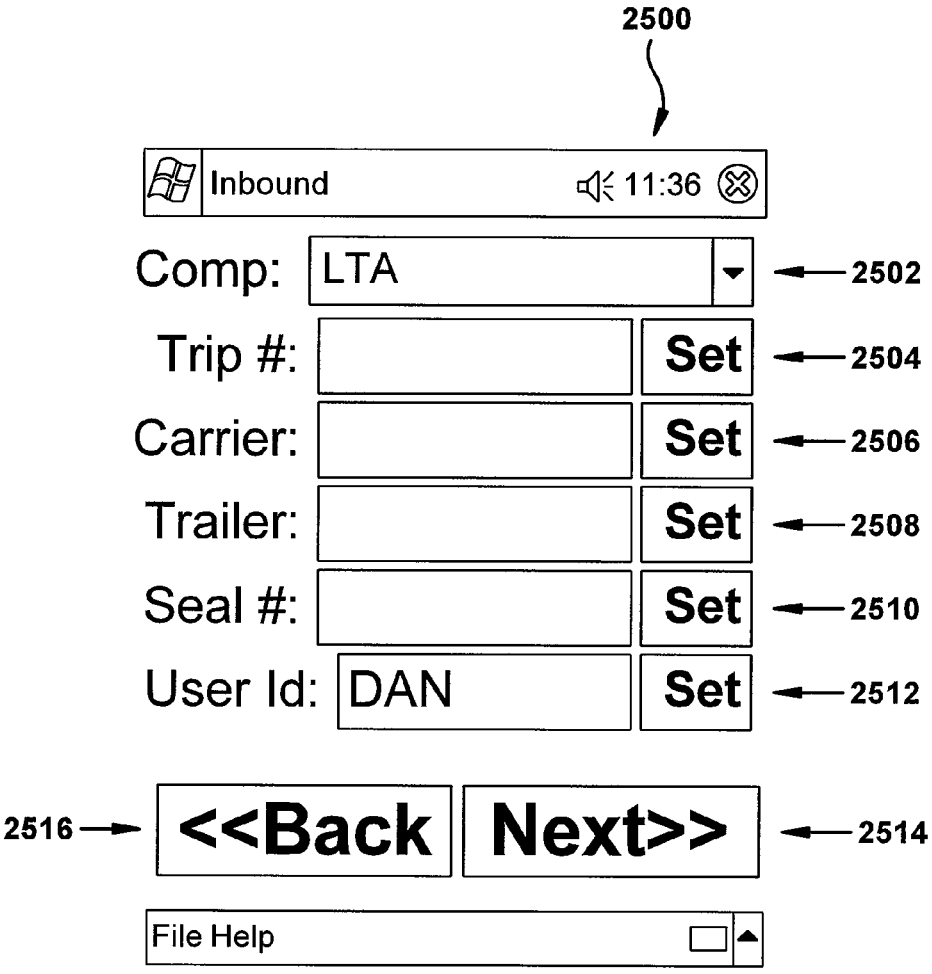

2500
Inbound
11:36
Comp:
LTA
2502
Trip #:
Set
2504
Carrier:
Set
2506
Trailer:
Set
2508
Seal #:
Set
2510
User Id:
DAN
Set
2512
2516
<<Back
Next>>
2514
File Help

Figure 25

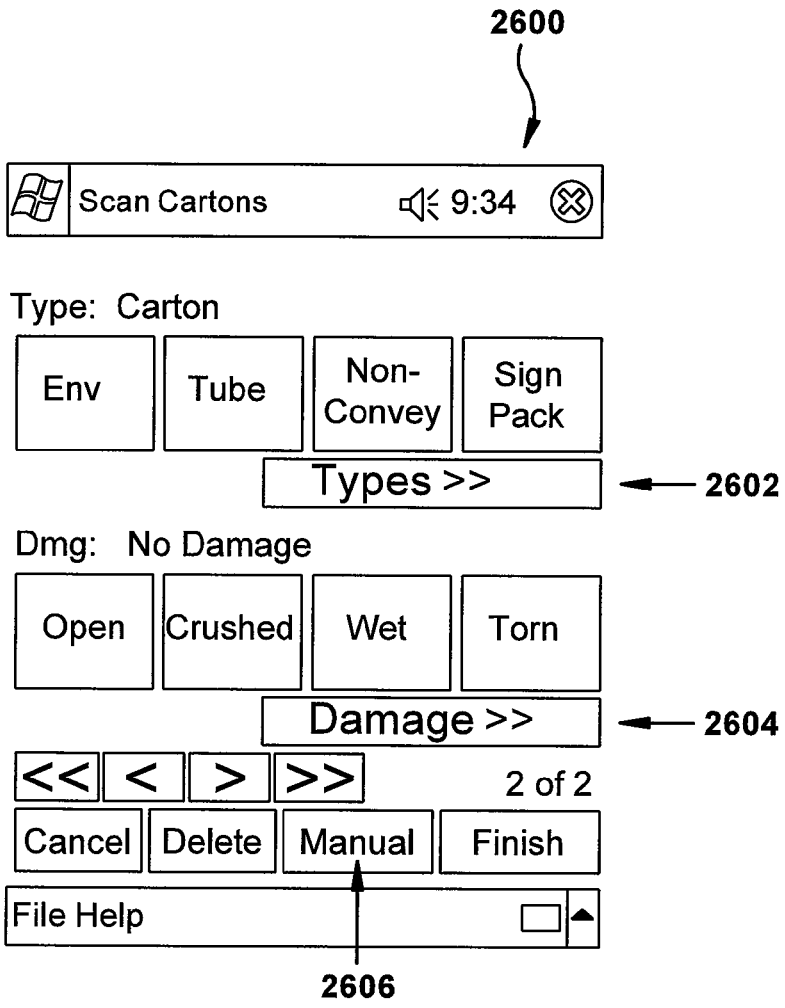

2600
Scan Cartons
9:34
Type: Carton
Env
Tube
Non-Convey
Sign Pack
Types >>
2602
Dmg: No Damage
Open
Crushed
Wet
Torn
Damage >>
2604
<<
<
>
>>
2 of 2
Cancel
Delete
Manual
Finish
File Help
2606

Figure 26

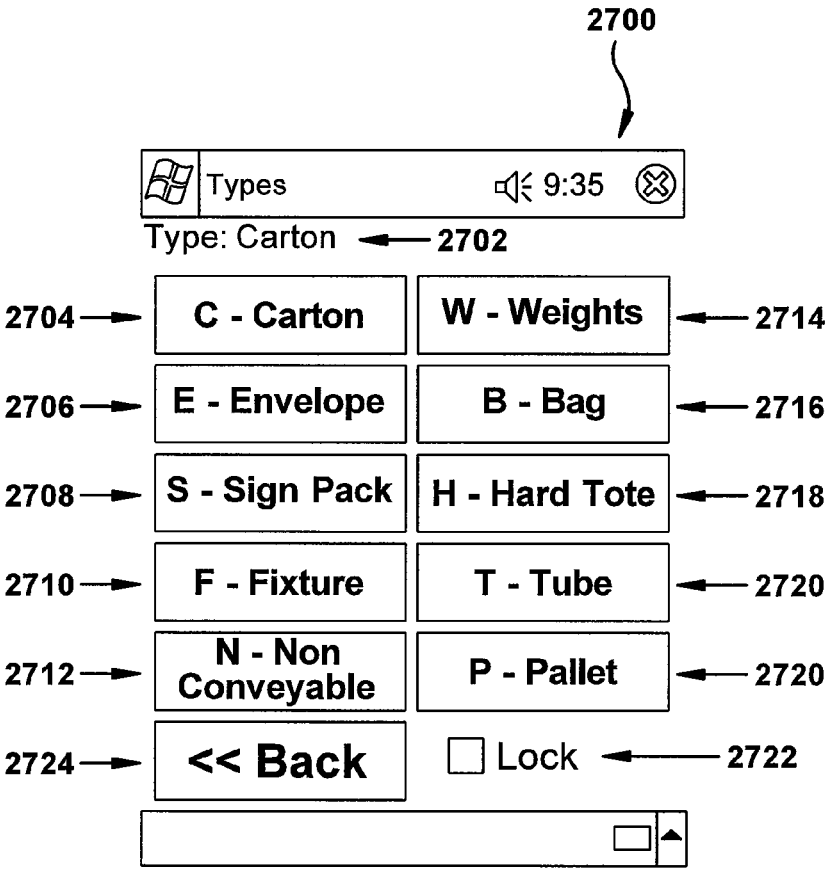

2700
Types
9:35
Type: Carton
2702
2704
C - Carton
W - Weights
2714
2706
E - Envelope
B - Bag
2716
2708
S - Sign Pack
H - Hard Tote
2718
2710
F - Fixture
T - Tube
2720
2712
N - Non Conveyable
P - Pallet
2720
2724
<< Back
Lock
2722

Figure 27

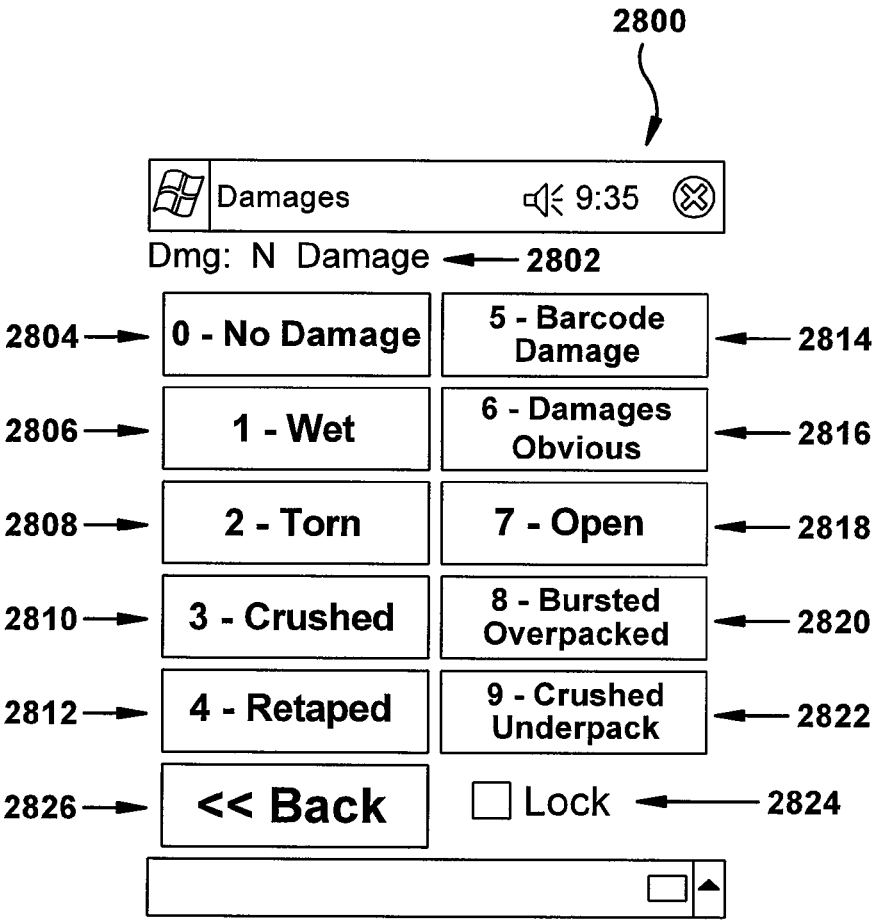

2800
Damages
9:35
Dmg: N Damage
2802
2804
0 - No Damage
5 - Barcode Damage
2814
2806
1 - Wet
6 - Damages Obvious
2816
2808
2 - Torn
7 - Open
2818
2810
3 - Crushed
8 - Bursted Overpacked
2820
2812
4 - Retaped
9 - Crushed Underpack
2822
2826
<< Back
Lock
2824

Figure 28

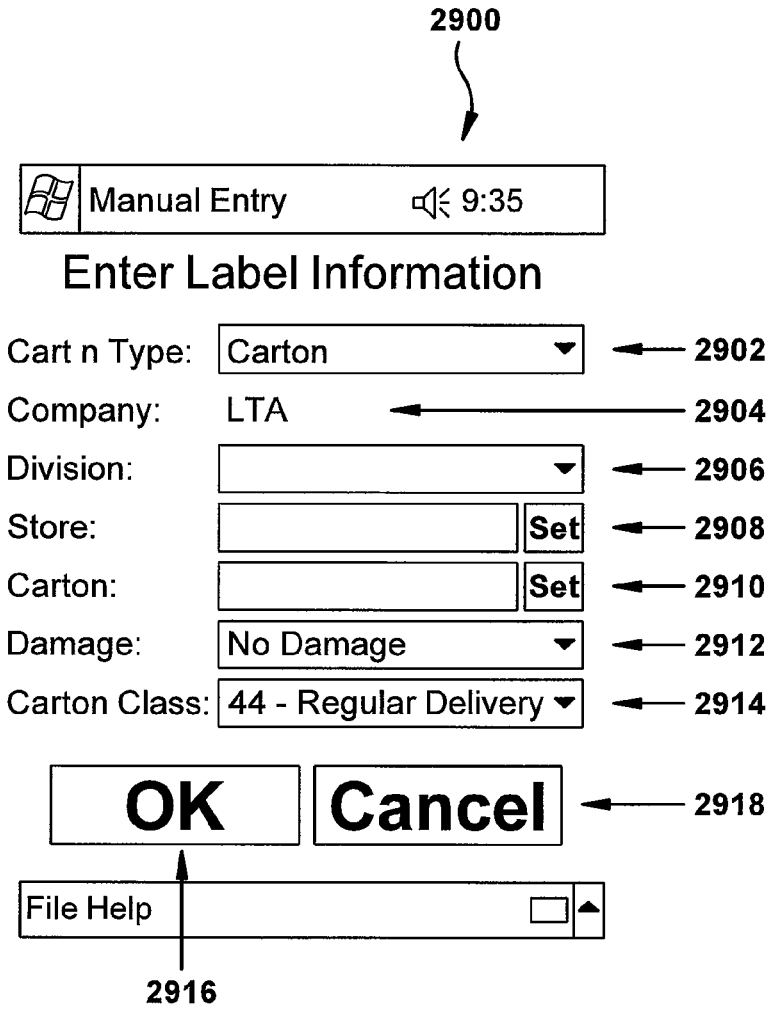

2900
Manual Entry
9:35
Enter Label Information
Cart n Type:
Carton
2902
Company:
LTA
2904
Division:
2906
Store:
Set
2908
Carton:
Set
2910
Damage:
No Damage
2912
Carton Class:
44 - Regular Delivery
2914
OK
Cancel
2918
File Help
2916

Figure 29

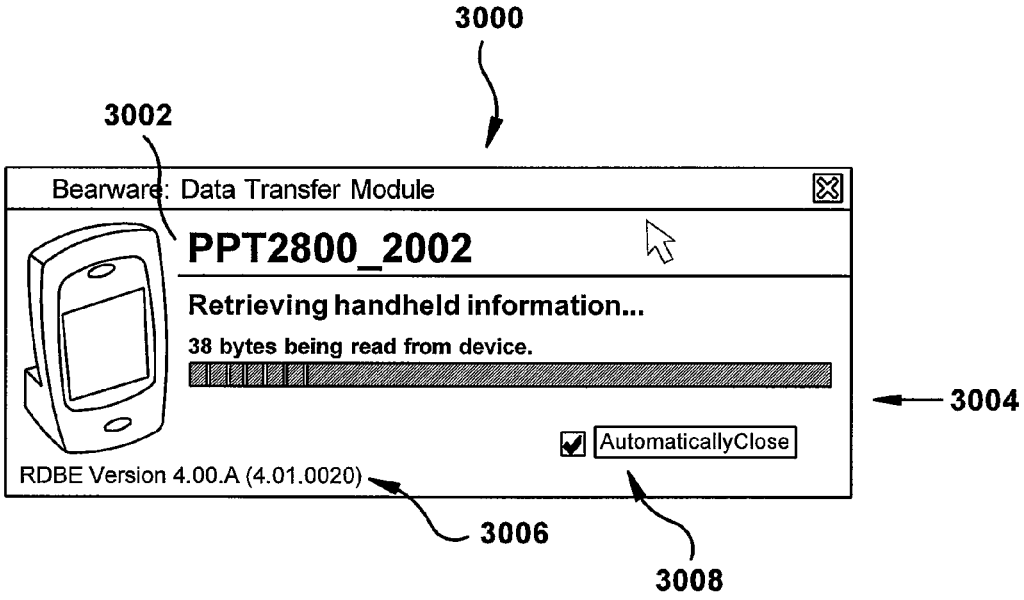

3000
3002
Bearware: Data Transfer Module
PPT2800_2002
Retrieving handheld information...
38 bytes being read from device.
AutomaticallyClose
3004
RDBE Version 4.00.A (4.01.0020)
3006
3008

Figure 30

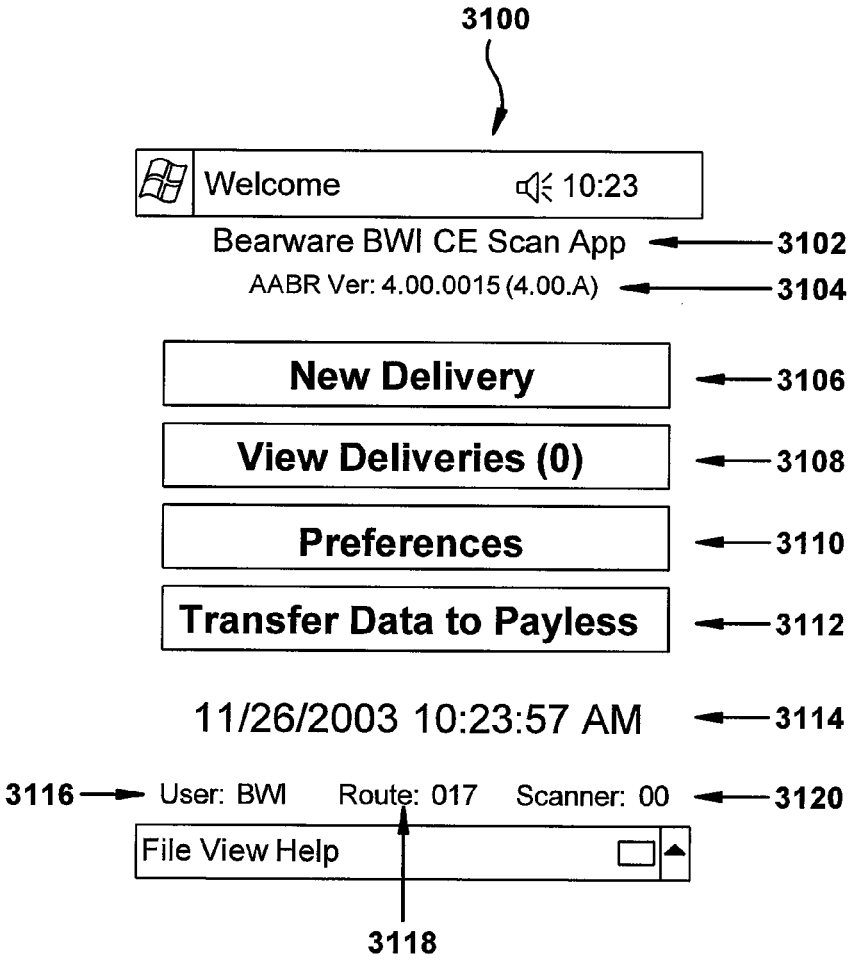

3100
Welcome
10:23
Bearware BWI CE Scan App
3102
AABR Ver: 4.00.0015 (4.00.A)
3104
New Delivery
3106
View Deliveries (0)
3108
Preferences
3110
Transfer Data to Payless
3112
11/26/2003 10:23:57 AM
3114
3116
User: BWI
Route: 017
Scanner: 00
3120
File View Help
3118

Figure 31

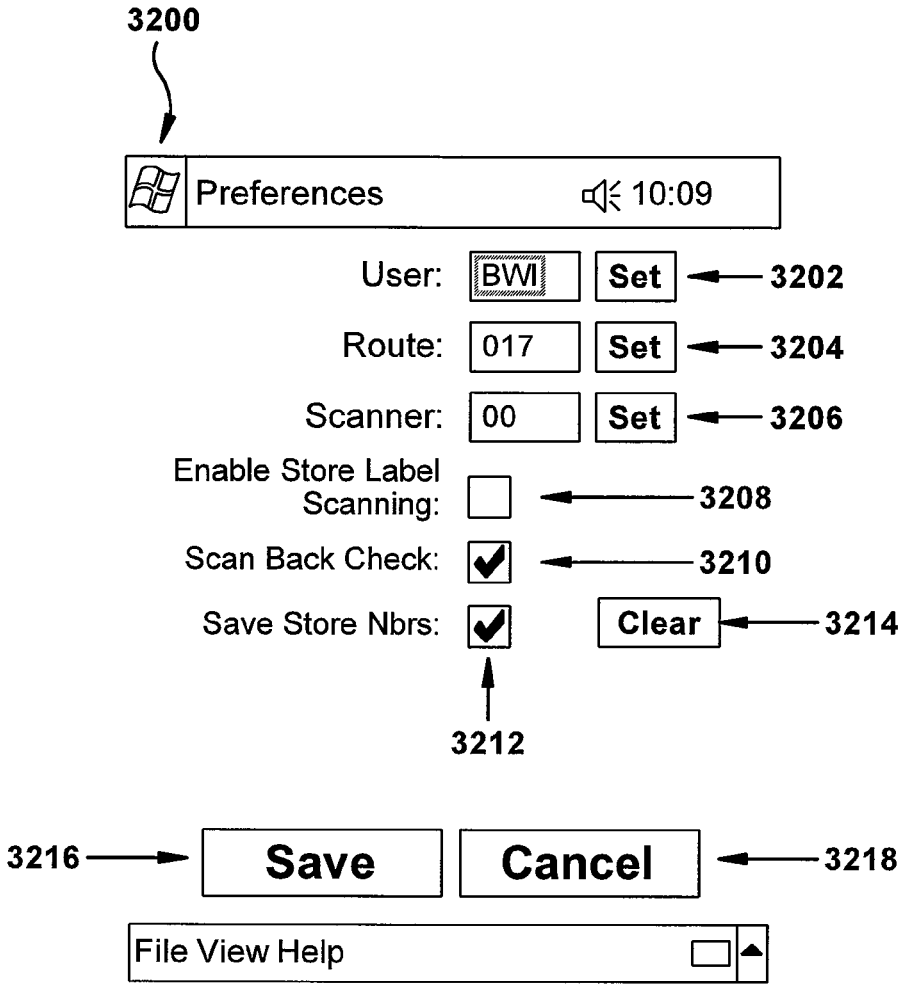

3200
Preferences
10:09
User:
BWI
Set
3202
Route:
017
Set
3204
Scanner:
00
Set
3206
Enable Store Label Scanning:
3208
Scan Back Check:
3210
Save Store Nbrs:
Clear
3214
3212
3216
Save
Cancel
3218
File View Help

Figure 32

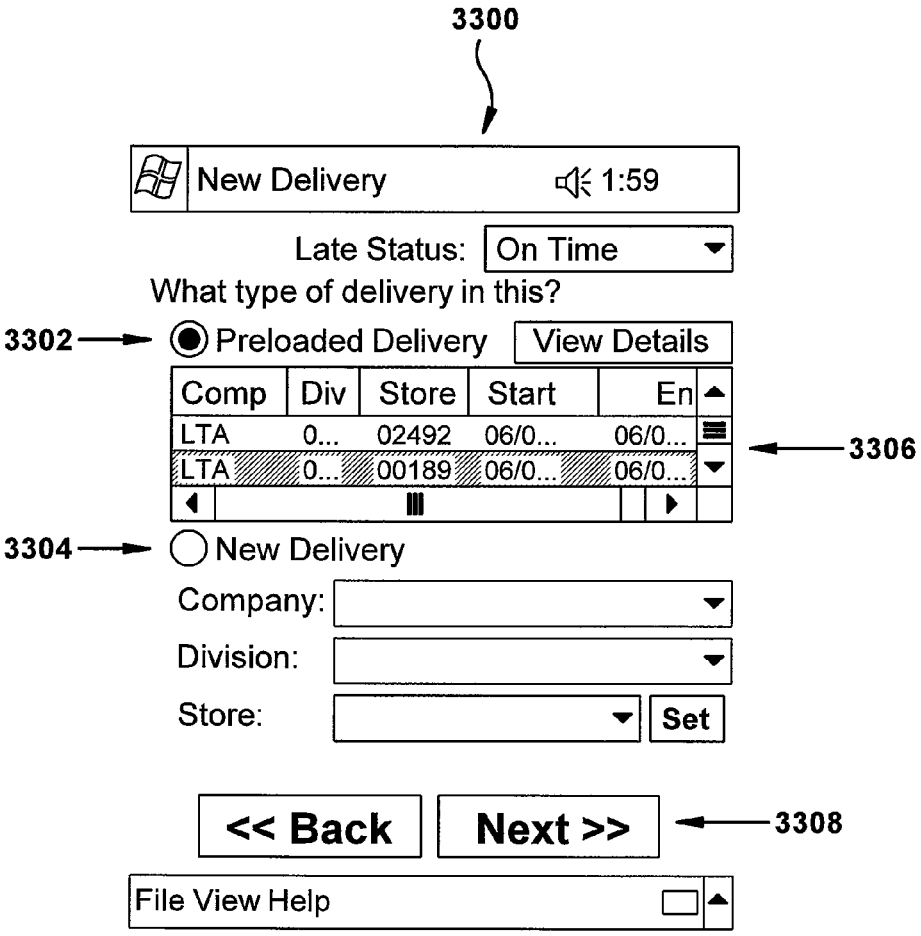

3300
New Delivery
1:59
Late Status:
On Time
What type of delivery in this?
3302
Preloaded Delivery
View Details
Comp
Div
Store
Start
En
LTA
0...
02492
06/0...
06/0...
LTA
0...
00189
06/0...
06/0...
3306
3304
New Delivery
Company:
Division:
Store:
Set
<< Back
Next >>
3308
File View Help

Figure 33

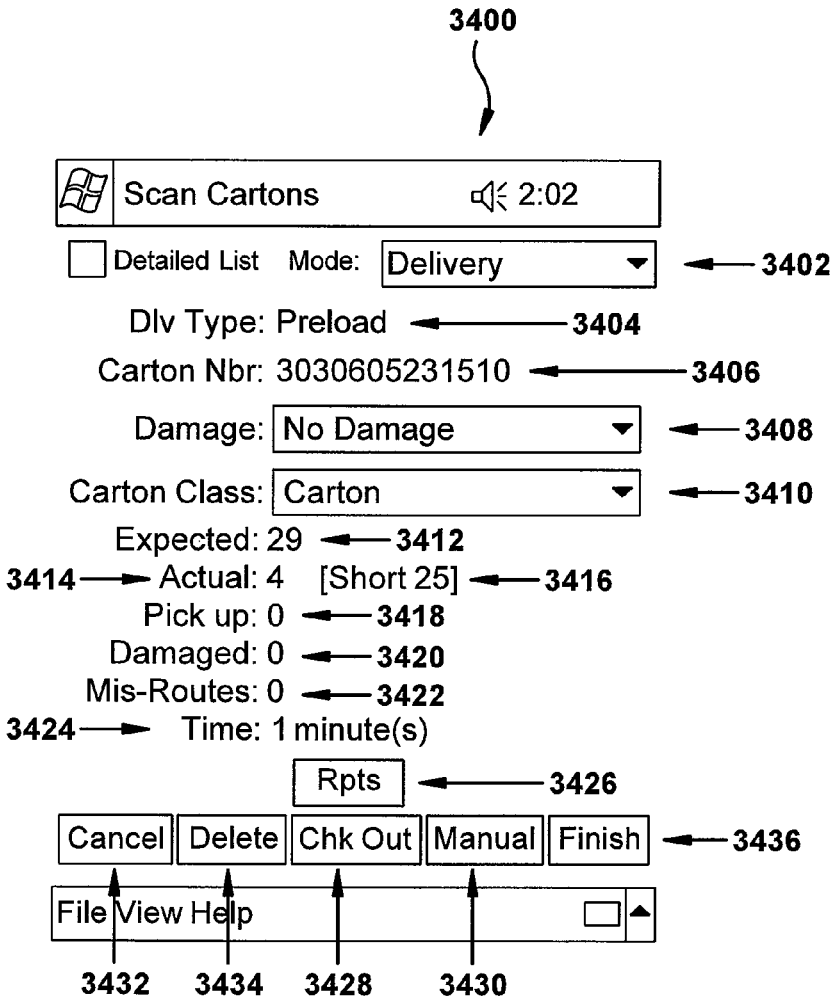

3400
Scan Cartons
2:02
Detailed List
Mode:
Delivery
3402
Dlv Type: Preload
3404
Carton Nbr: 3030605231510
3406
Damage:
No Damage
3408
Carton Class:
Carton
3410
Expected: 29
3412
3414
Actual: 4
[Short 25]
3416
Pick up: 0
3418
Damaged: 0
3420
Mis-Routes: 0
3422
3424
Time: 1 minute(s)
Rpts
3426
Cancel
Delete
Chk Out
Manual
Finish
3436
File View Help
3432
3434
3428
3430

Figure 34

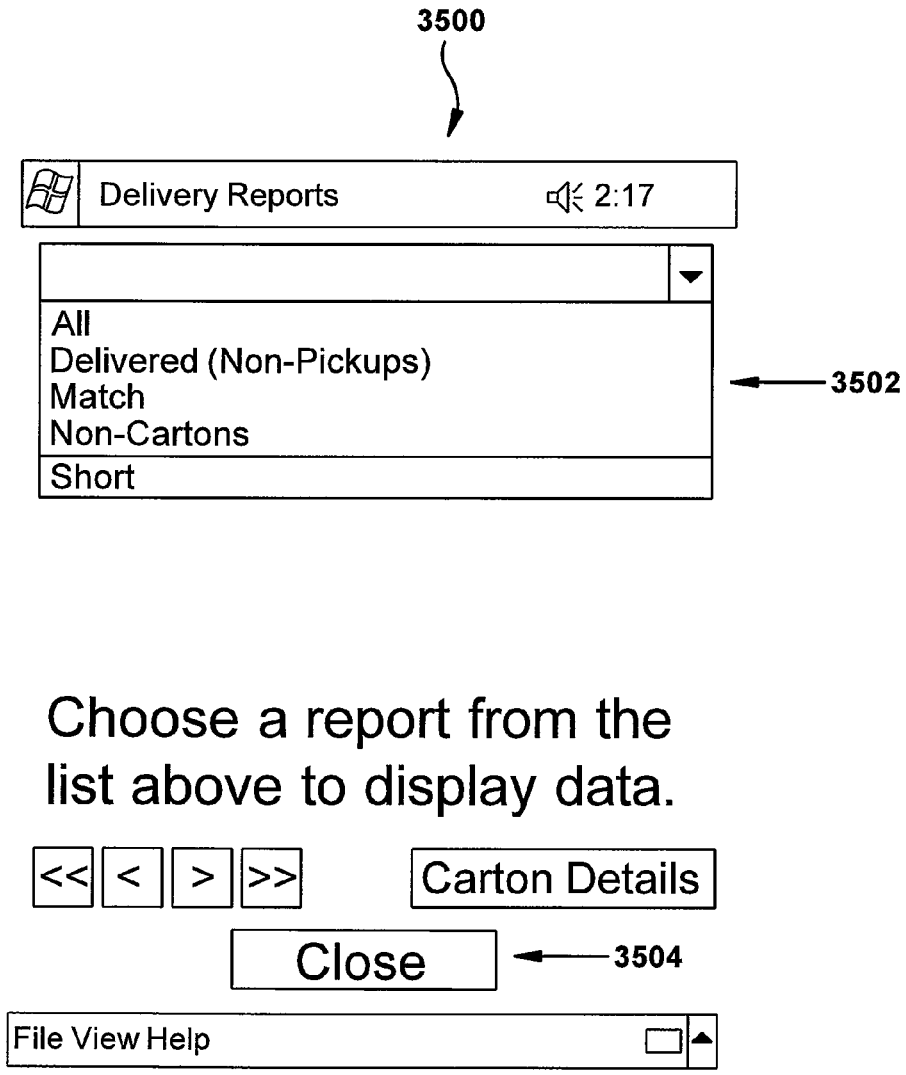

3500
Delivery Reports
2:17
All
Delivered (Non-Pickups)
Match
Non-Cartons
Short
3502
Choose a report from the list above to display data.
<<
<
>
>>
Carton Details
Close
3504
File View Help

Figure 35

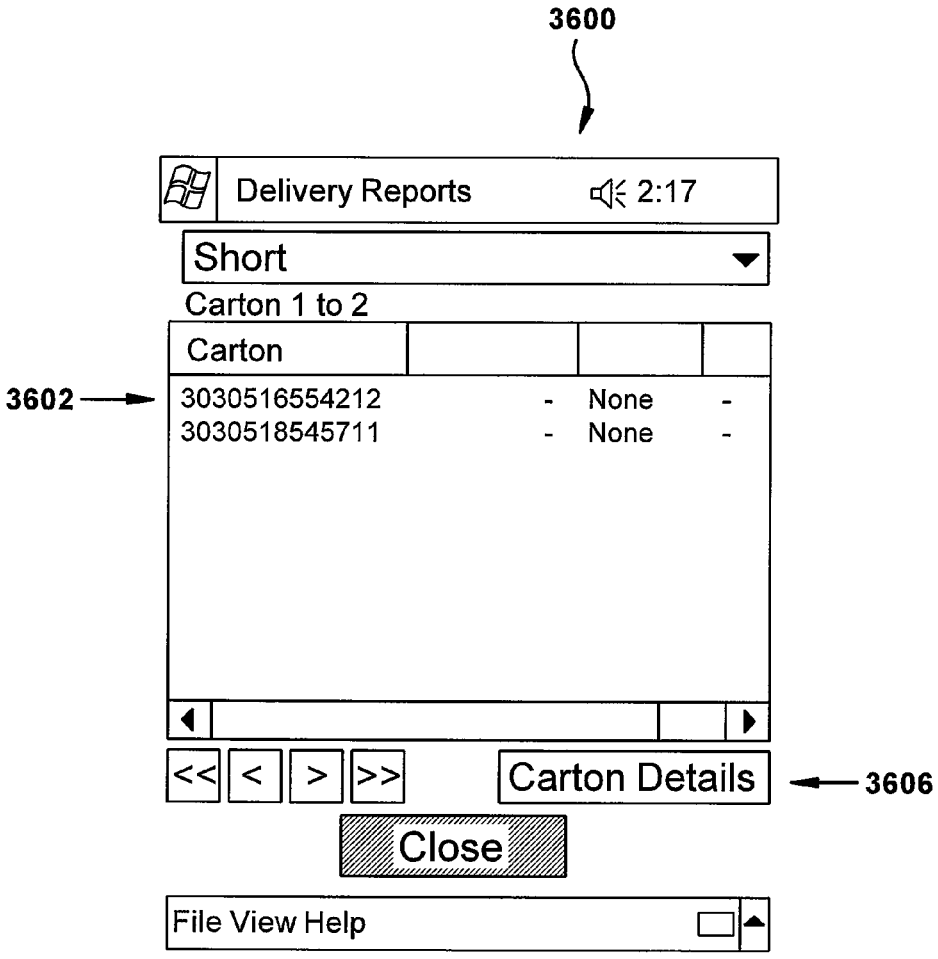

3600
Delivery Reports
2:17
Short
Carton 1 to 2
Carton
3602
3030516554212 - None -
3030518545711 - None -
<<
<
>
>>
Carton Details
3606
Close
File View Help

Figure 36

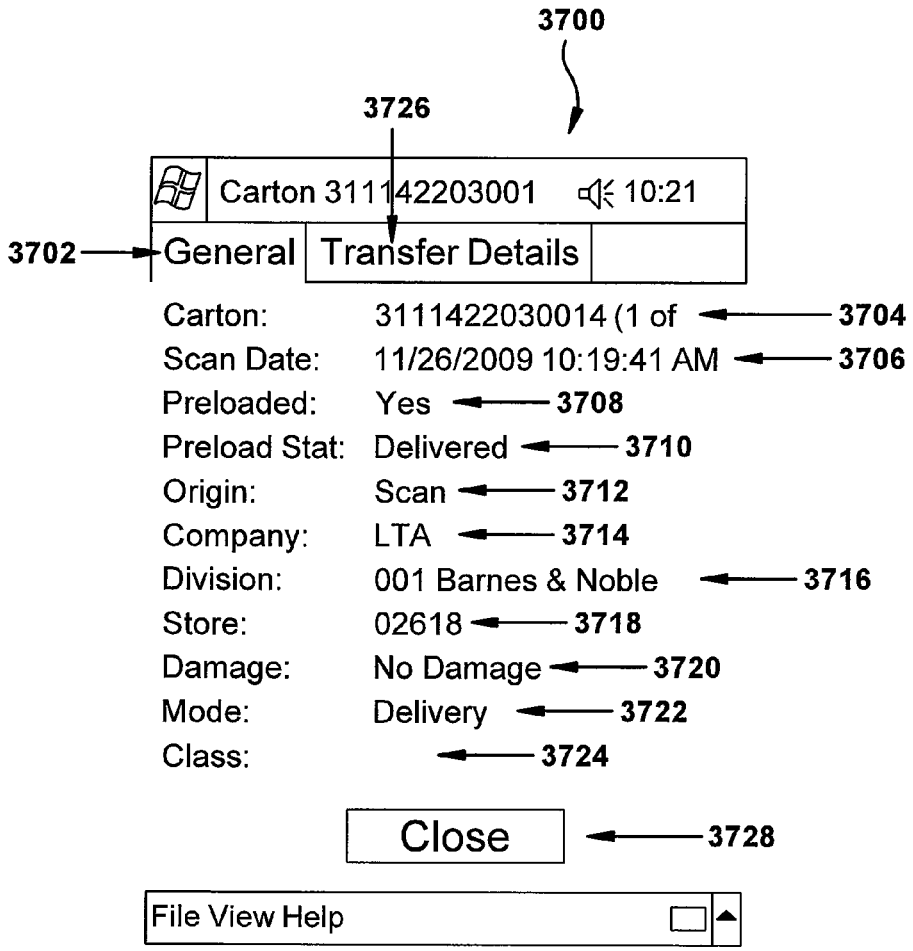

3700
3726
Carton 311142203001 10:21
3702
General
Transfer Details
Carton: 3111422030014 (1 of
3704
Scan Date: 11/26/2009 10:19:41 AM
3706
Preloaded: Yes
3708
Preload Stat: Delivered
3710
Origin: Scan
3712
Company: LTA
3714
Division: 001 Barnes & Noble
3716
Store: 02618
3718
Damage: No Damage
3720
Mode: Delivery
3722
Class:
3724
Close
3728
File View Help

Figure 37

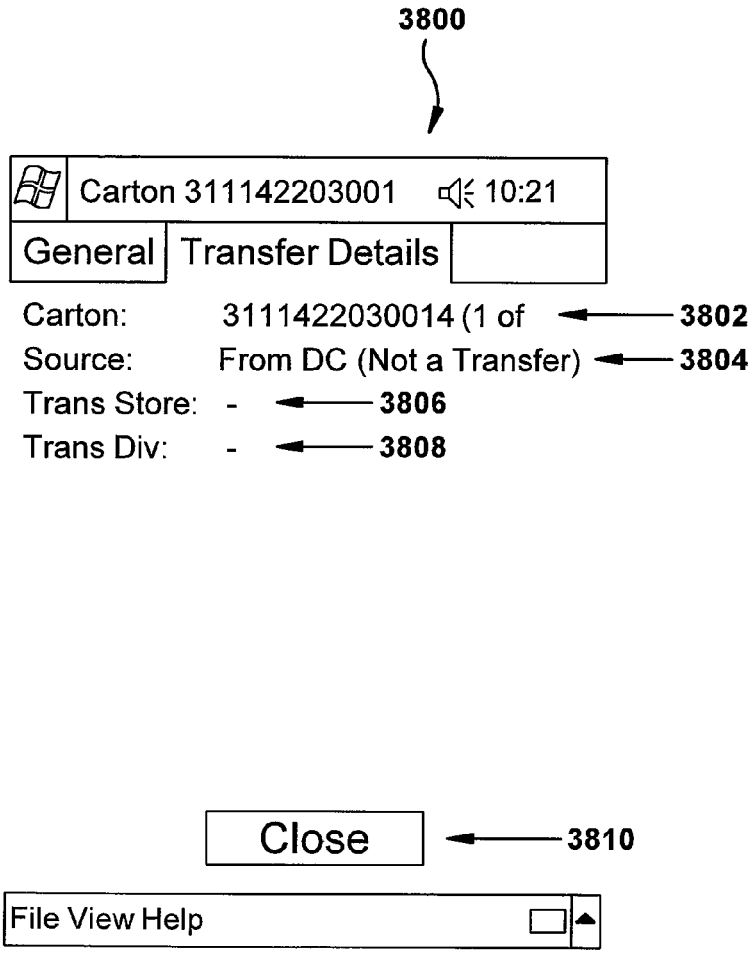

3800
Carton 311142203001 10:21
General
Transfer Details
Carton: 3111422030014 (1 of
3802
Source: From DC (Not a Transfer)
3804
Trans Store: -
3806
Trans Div: -
3808
Close
3810
File View Help

Figure 38

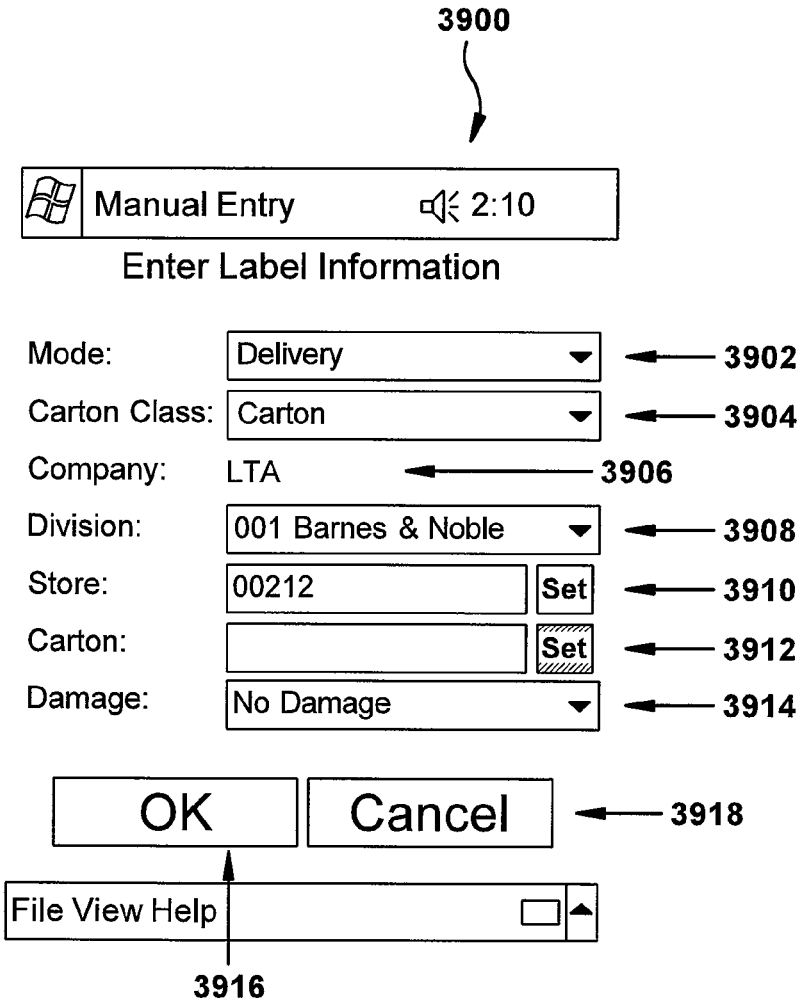

3900
Manual Entry
2:10
Enter Label Information
Mode:
Delivery
3902
Carton Class:
Carton
3904
Company:
LTA
3906
Division:
001 Barnes & Noble
3908
Store:
00212
Set
3910
Carton:
Set
3912
Damage:
No Damage
3914
OK
Cancel
3918
File View Help
3916

Figure 39

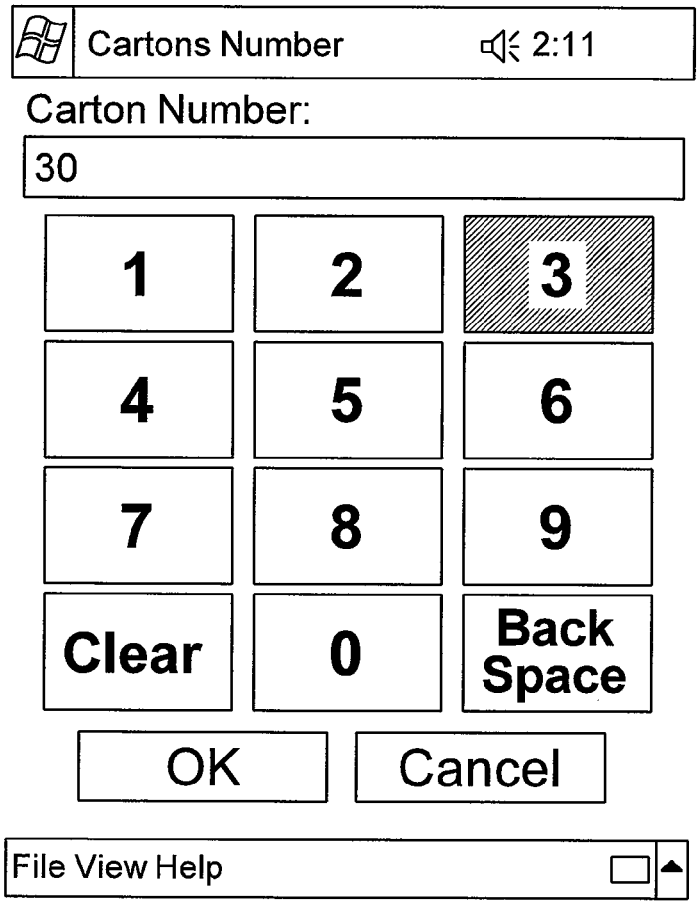

Cartons Number
2:11
Carton Number:
30
1
2
3
4
5
6
7
8
9
Clear
0
Back Space
OK
Cancel
File View Help

Figure 40

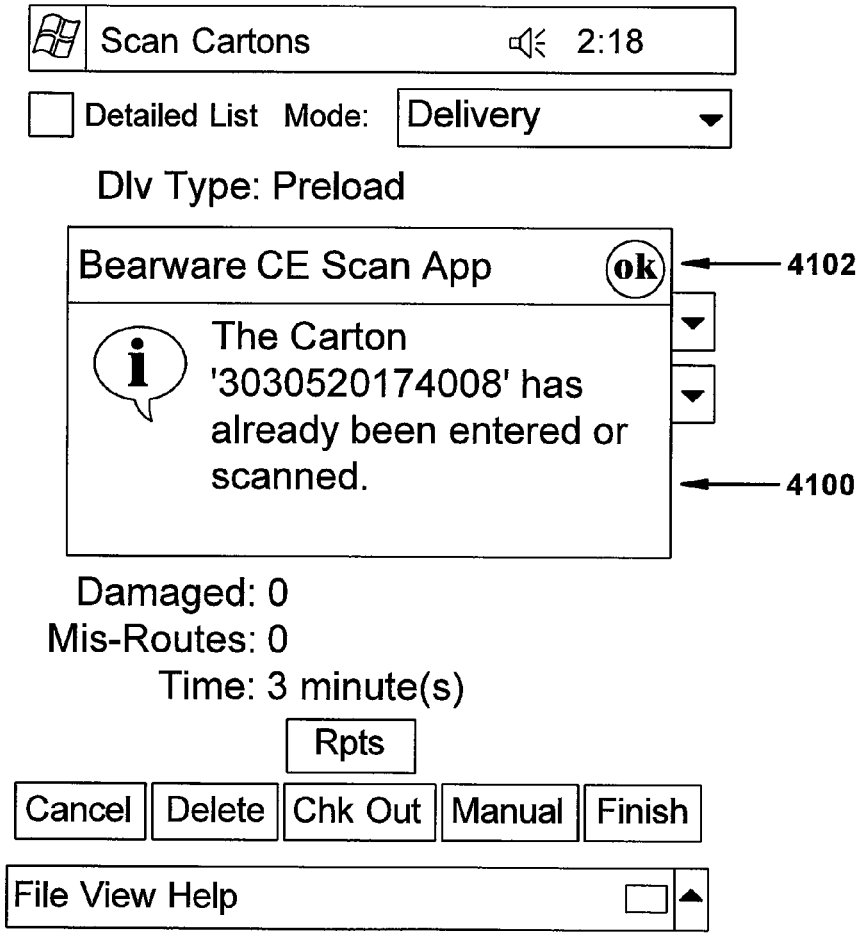

Scan Cartons
2:18
Detailed List Mode:
Delivery
Dlv Type: Preload
Bearware CE Scan App
ok
4102
The Carton '3030520174008' has already been entered or scanned.
4100
Damaged: 0
Mis-Routes: 0
Time: 3 minute(s)
Rpts
Cancel
Delete
Chk Out
Manual
Finish
File View Help

Figure 41

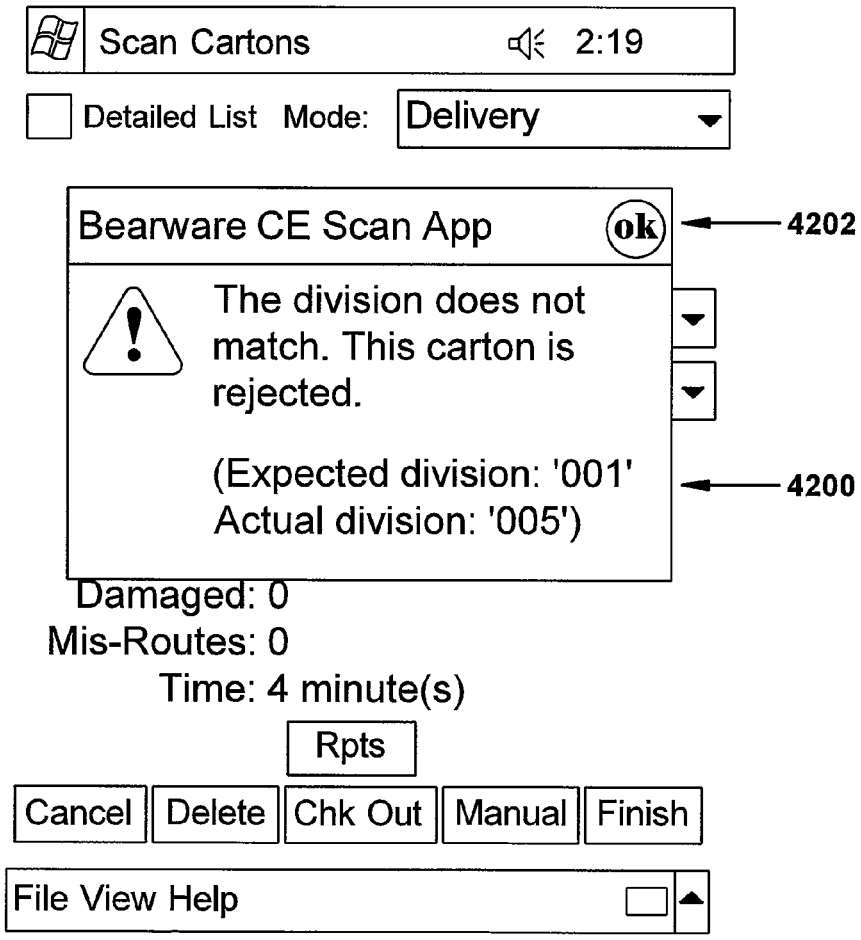

Scan Cartons
2:19
Detailed List
Mode:
Delivery
Bearware CE Scan App
ok
4202
The division does not match. This carton is rejected.
(Expected division: '001'
Actual division: '005')
4200
Damaged: 0
Mis-Routes: 0
Time: 4 minute(s)
Rpts
Cancel
Delete
Chk Out
Manual
Finish
File View Help

Figure 42

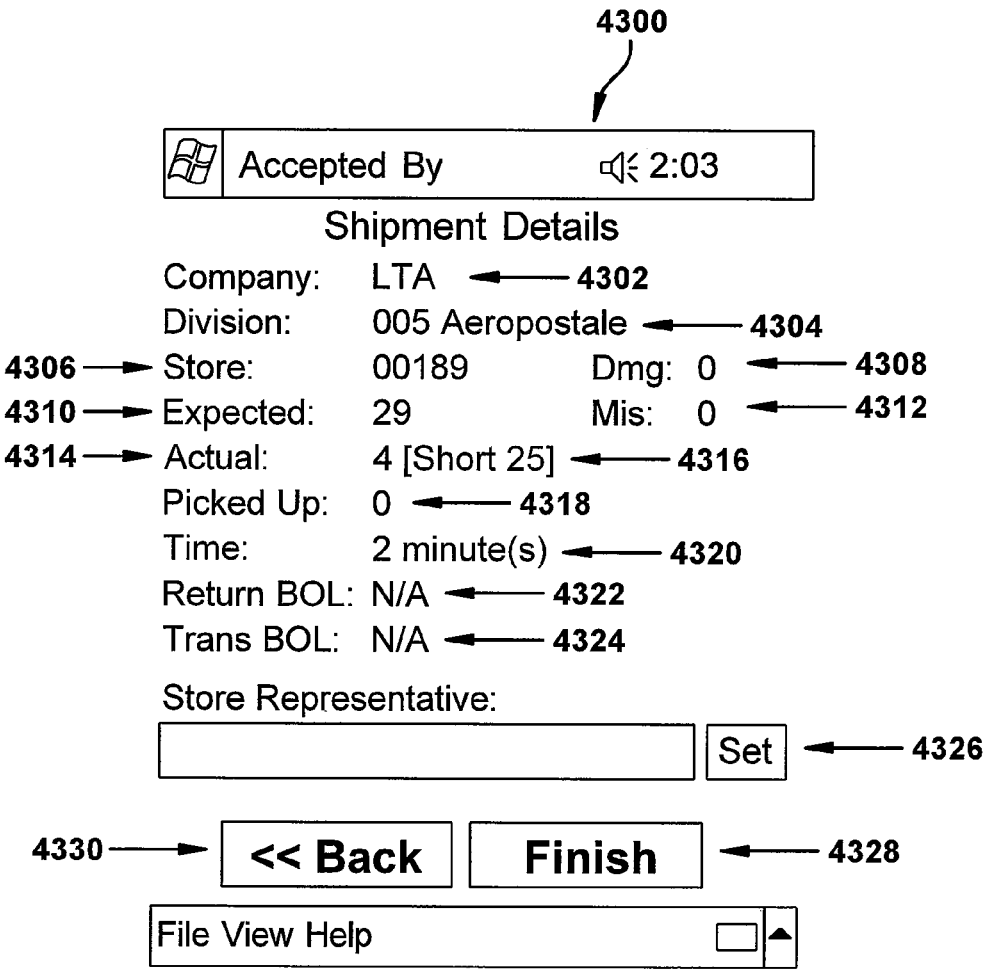

4300
Accepted By
2:03
Shipment Details
Company: LTA
4302
Division: 005 Aeropostale
4304
4306
Store: 00189
Dmg: 0
4308
4310
Expected: 29
Mis: 0
4312
4314
Actual: 4 [Short 25]
4316
Picked Up: 0
4318
Time: 2 minute(s)
4320
Return BOL: N/A
4322
Trans BOL: N/A
4324
Store Representative:
Set
4326
4330
<< Back
Finish
4328
File View Help

Figure 43

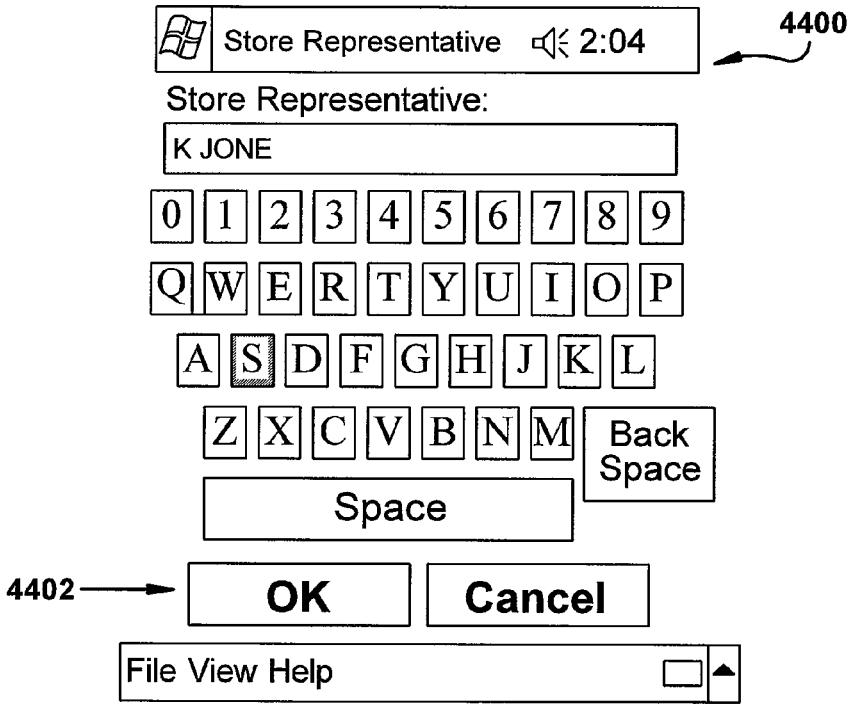

Store Representative 2:04
4400
Store Representative:
K JONE
0 1 2 3 4 5 6 7 8 9
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
Back Space
Space
4402
OK
Cancel
File View Help

Figure 44

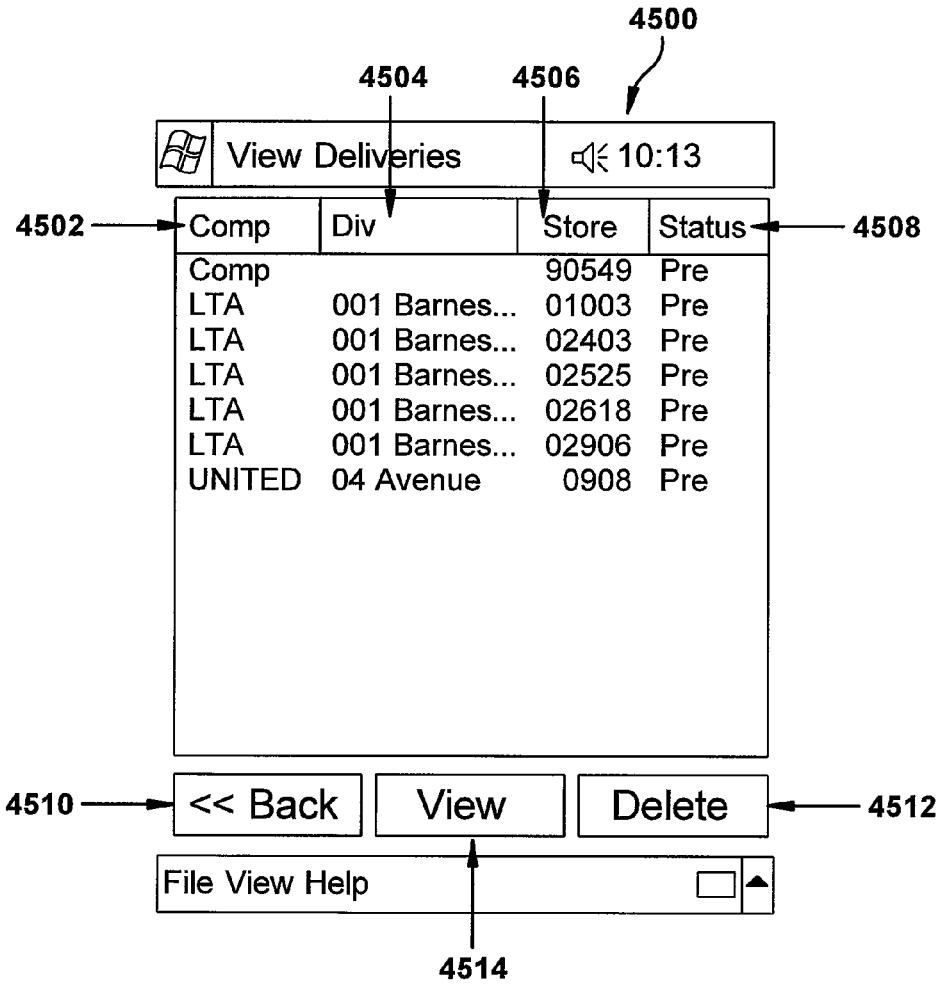

4500
4504
4506
View Deliveries
10:13
4502
Comp
Div
Store
Status
4508
Comp 90549 Pre
LTA 001 Barnes... 01003 Pre
LTA 001 Barnes... 02403 Pre
LTA 001 Barnes... 02525 Pre
LTA 001 Barnes... 02618 Pre
LTA 001 Barnes... 02906 Pre
UNITED 04 Avenue 0908 Pre
4510
<< Back
View
Delete
4512
File View Help
4514

Figure 45

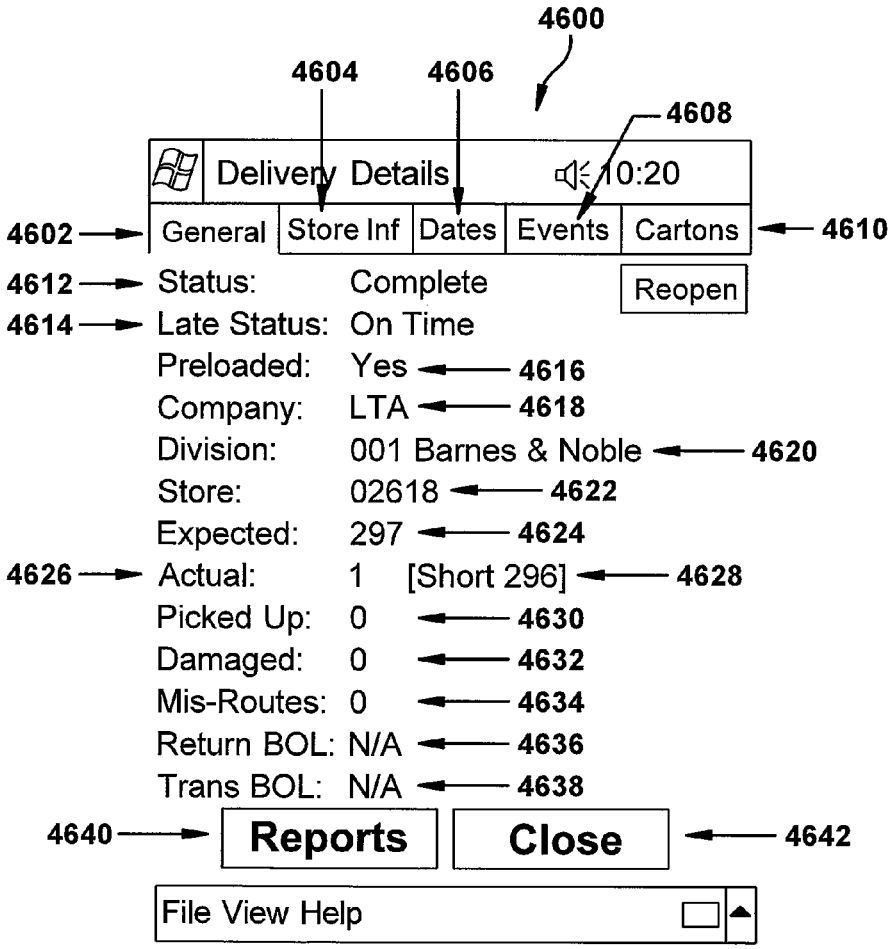

4600
4604
4606
4608
Delivery Details
10:20
4602
General
Store Inf
Dates
Events
Cartons
4610
4612
Status:
Complete
Reopen
4614
Late Status:
On Time
Preloaded:
Yes
4616
Company:
LTA
4618
Division:
001 Barnes & Noble
4620
Store:
02618
4622
Expected:
297
4624
4626
Actual:
1
[Short 296]
4628
Picked Up:
0
4630
Damaged:
0
4632
Mis-Routes:
0
4634
Return BOL:
N/A
4636
Trans BOL:
N/A
4638
4640
Reports
Close
4642
File View Help

Figure 46

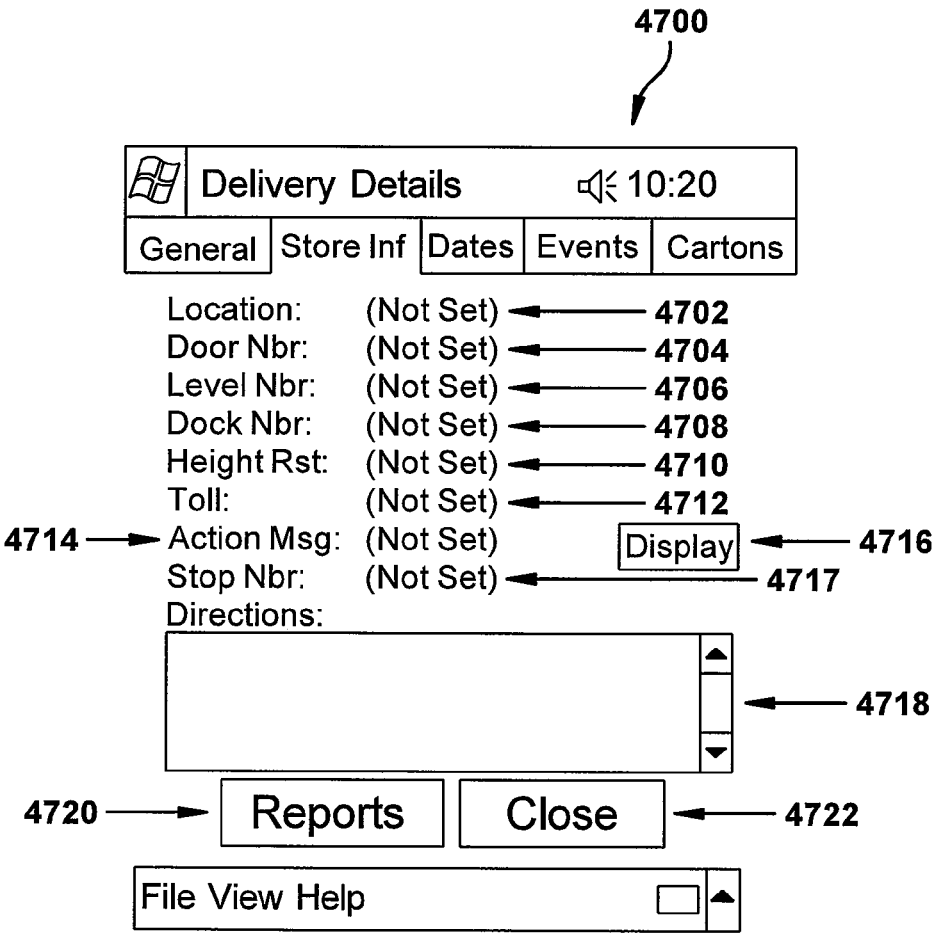

4700
Delivery Details
10:20
General
Store Inf
Dates
Events
Cartons
Location: (Not Set)
4702
Door Nbr: (Not Set)
4704
Level Nbr: (Not Set)
4706
Dock Nbr: (Not Set)
4708
Height Rst: (Not Set)
4710
Toll: (Not Set)
4712
4714
Action Msg: (Not Set)
Display
4716
Stop Nbr: (Not Set)
4717
Directions:
4718
4720
Reports
Close
4722
File View Help

Figure 47

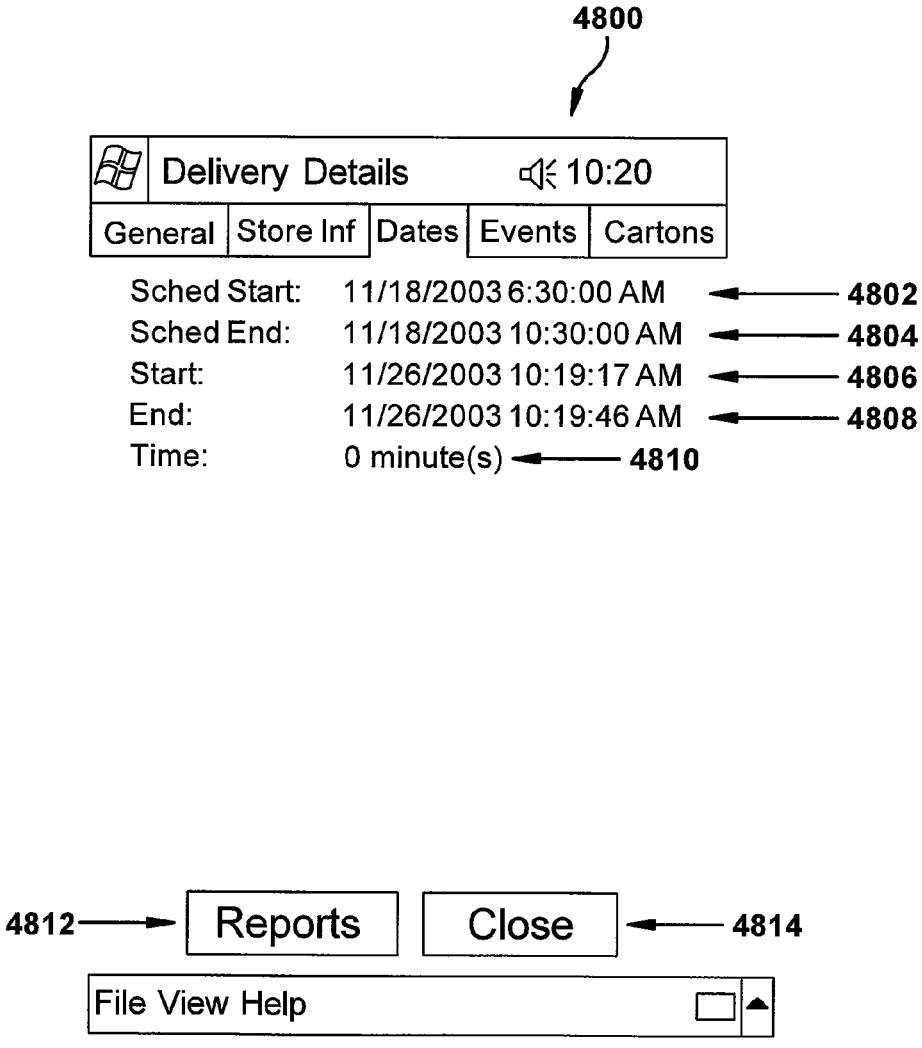

4800
Delivery Details
10:20
General
Store Inf
Dates
Events
Cartons
Sched Start: 11/18/2003 6:30:00 AM
4802
Sched End: 11/18/2003 10:30:00 AM
4804
Start: 11/26/2003 10:19:17 AM
4806
End: 11/26/2003 10:19:46 AM
4808
Time: 0 minute(s)
4810
4812
Reports
Close
4814
File View Help

Figure 48

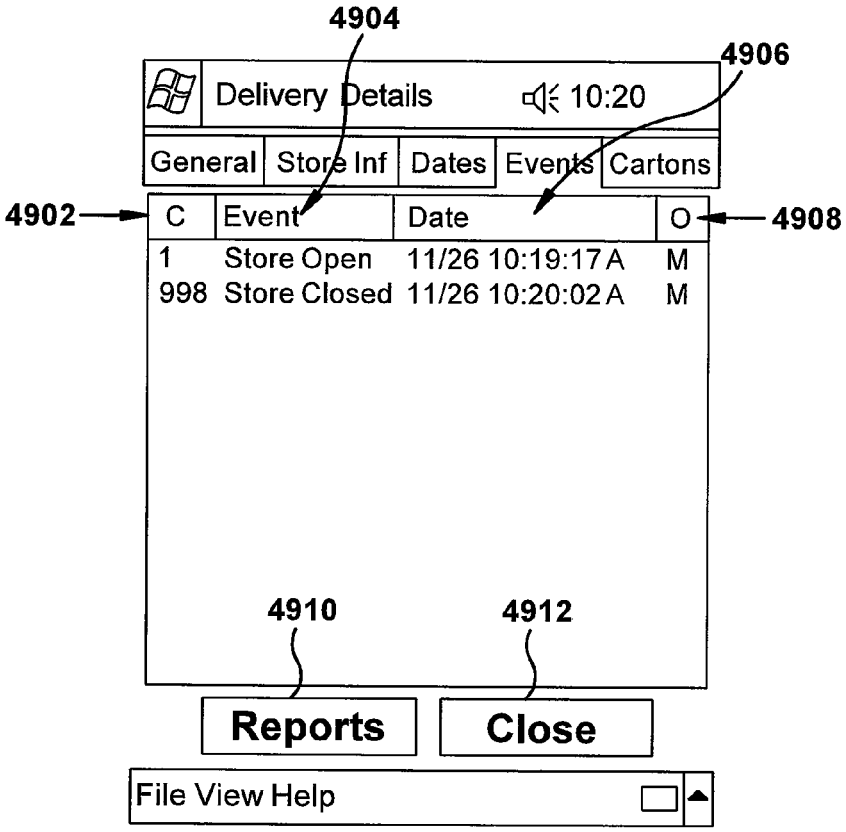

4904
4906
Delivery Details
10:20
General
Store Inf
Dates
Events
Cartons
4902
C
Event
Date
O
4908
1 Store Open 11/26 10:19:17 A M
998 Store Closed 11/26 10:20:02 A M
4910
4912
Reports
Close
File View Help

Figure 49

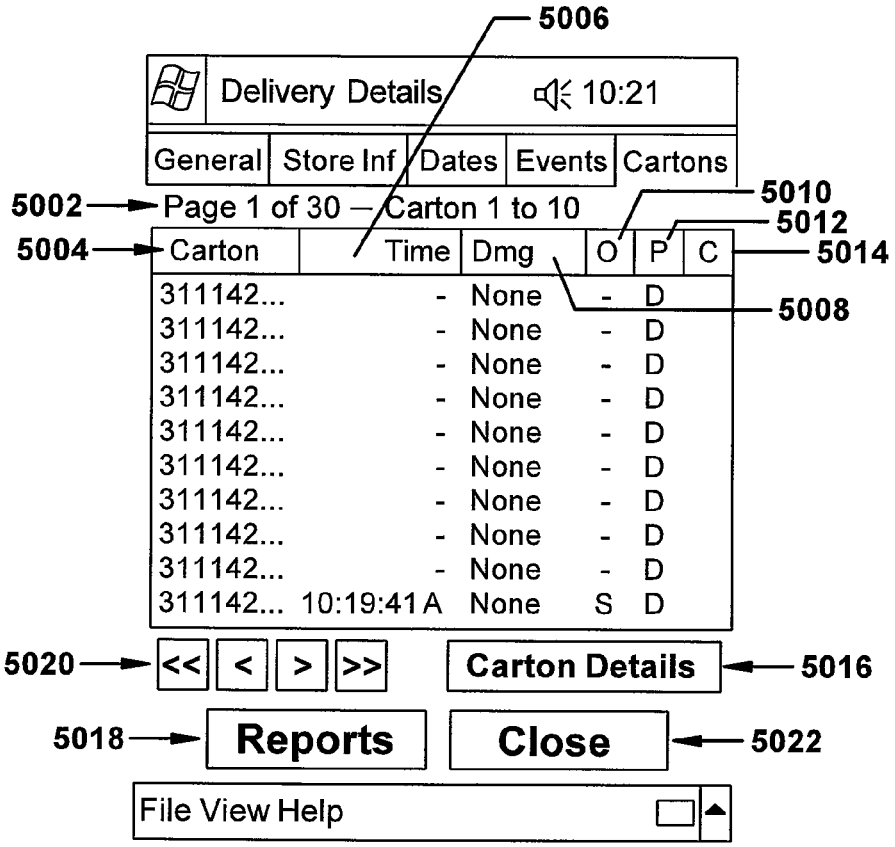

5006
Delivery Details
10:21
General
Store Inf
Dates
Events
Cartons
5002
Page 1 of 30 — Carton 1 to 10
5010
5012
5004
Carton
Time
Dmg
O
P
C
5014
5008
311142... - None - D
311142... - None - D
311142... - None - D
311142... - None - D
311142... - None - D
311142... - None - D
311142... - None - D
311142... - None - D
311142... - None - D
311142... 10:19:41A None S D
5020
<<
<
>
>>
Carton Details
5016
5018
Reports
Close
5022
File View Help

Figure 50

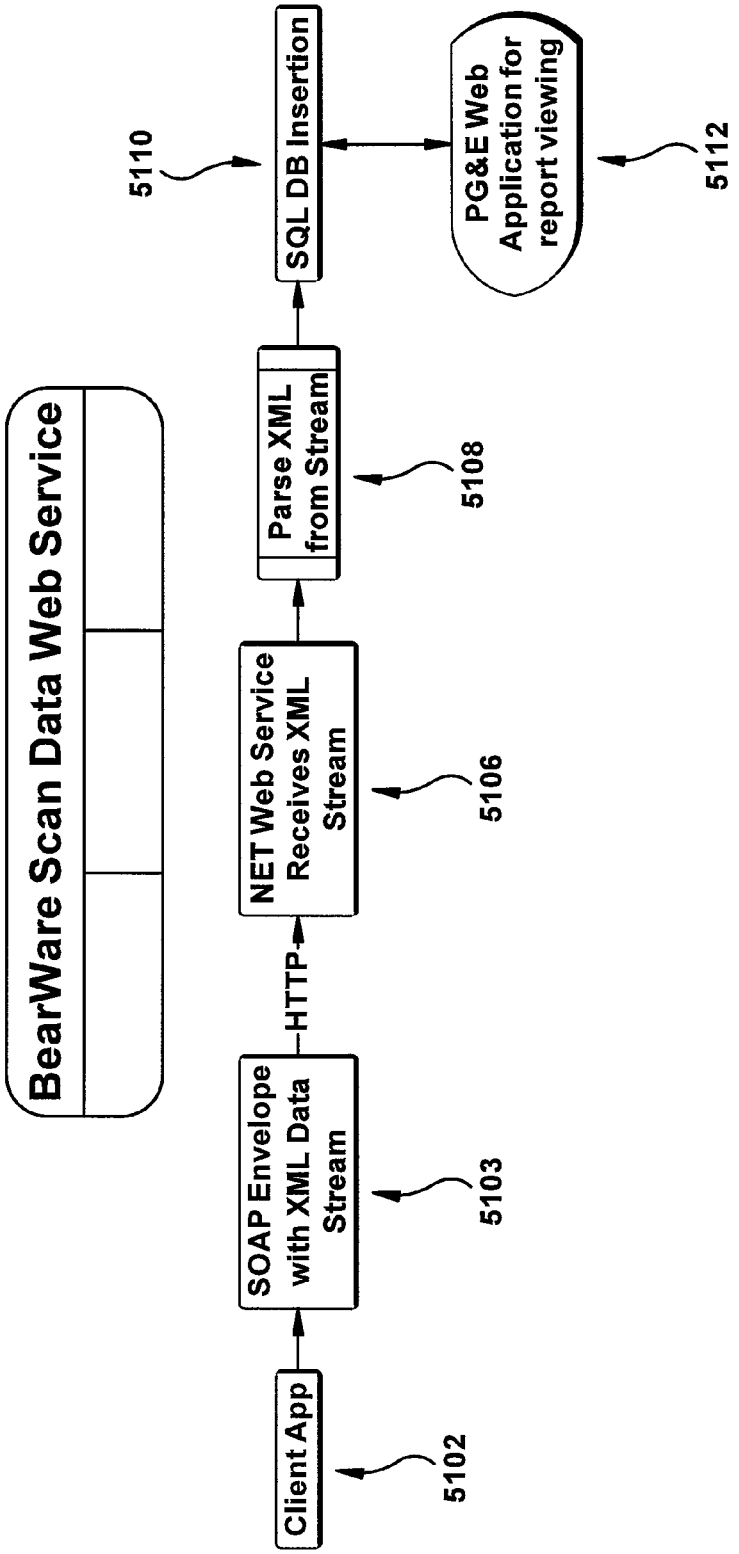

BearWare Scan Data Web Service
Client App
5102
SOAP Envelope with XML Data Stream
5103
HTTP
NET Web Service Receives XML Stream
5106
Parse XML from Stream
5108
SQL DB Insertion
5110
PG&E Web Application for report viewing
5112

Figure 51

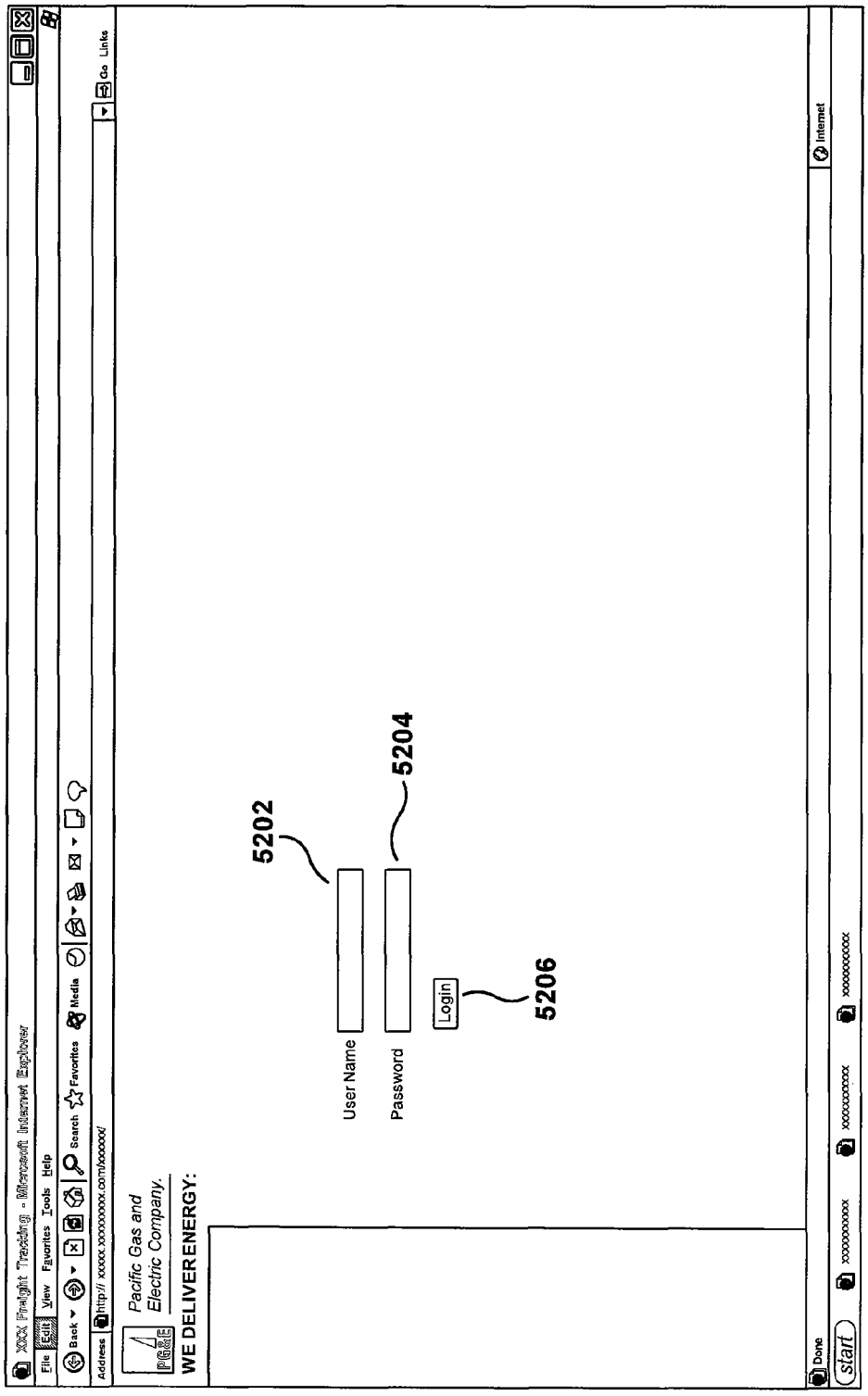

XXX Firelight Trading - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http:// xxxxx.xxxxxxxx.com/xxxxxx/
Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
5202
5204
User Name
Password
Login
5206
Done
Internet
start
xxxxxxxxxx
xxxxxxxxx
xxxxxxxxx

Figure 52

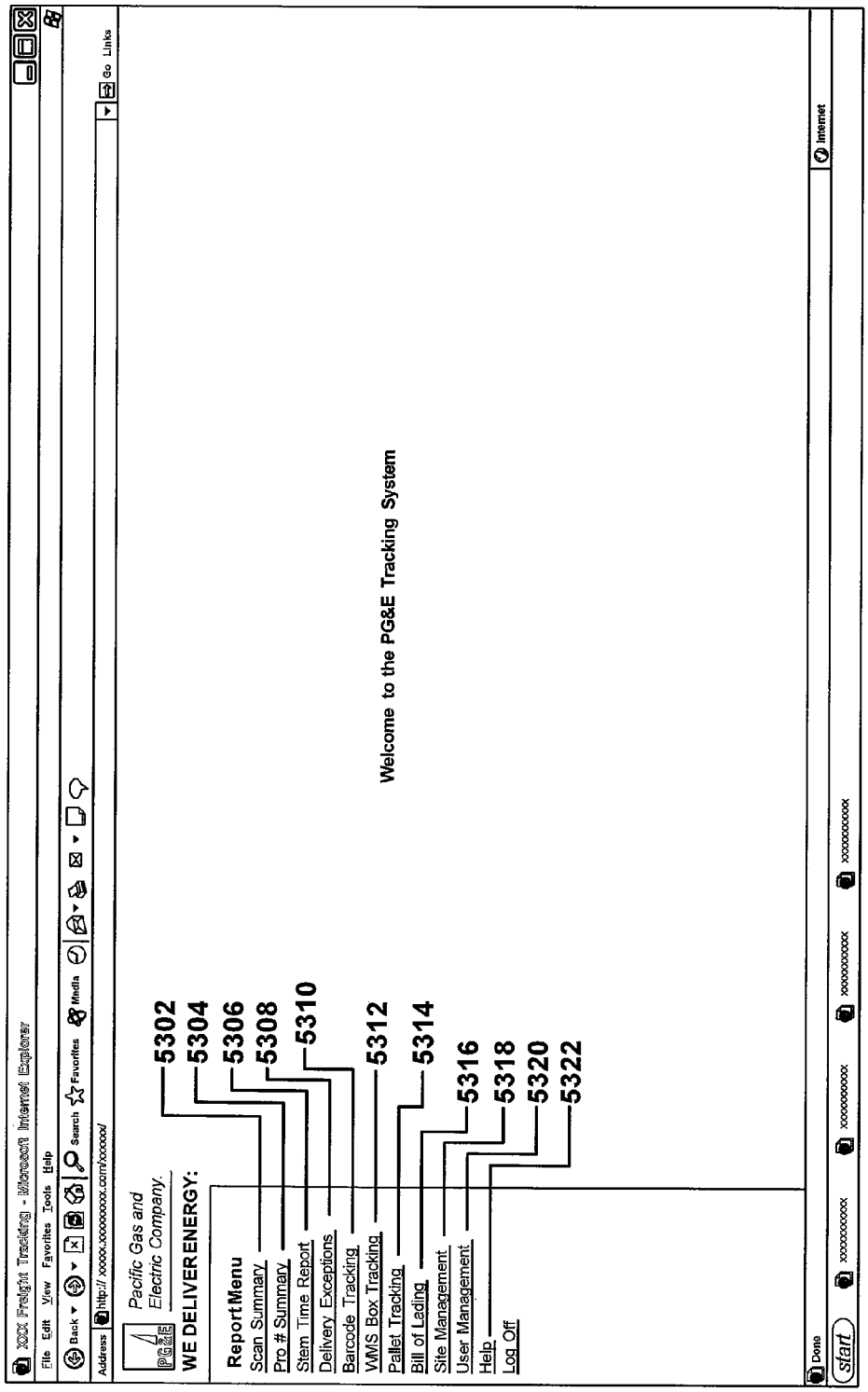

XXX Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://xxxx.xxxxxxxx.com/xxxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
ReportMenu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Welcome to the PG&E Tracking System
5302
5304
5306
5308
5310
5312
5314
5316
5318
5320
5322
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 53

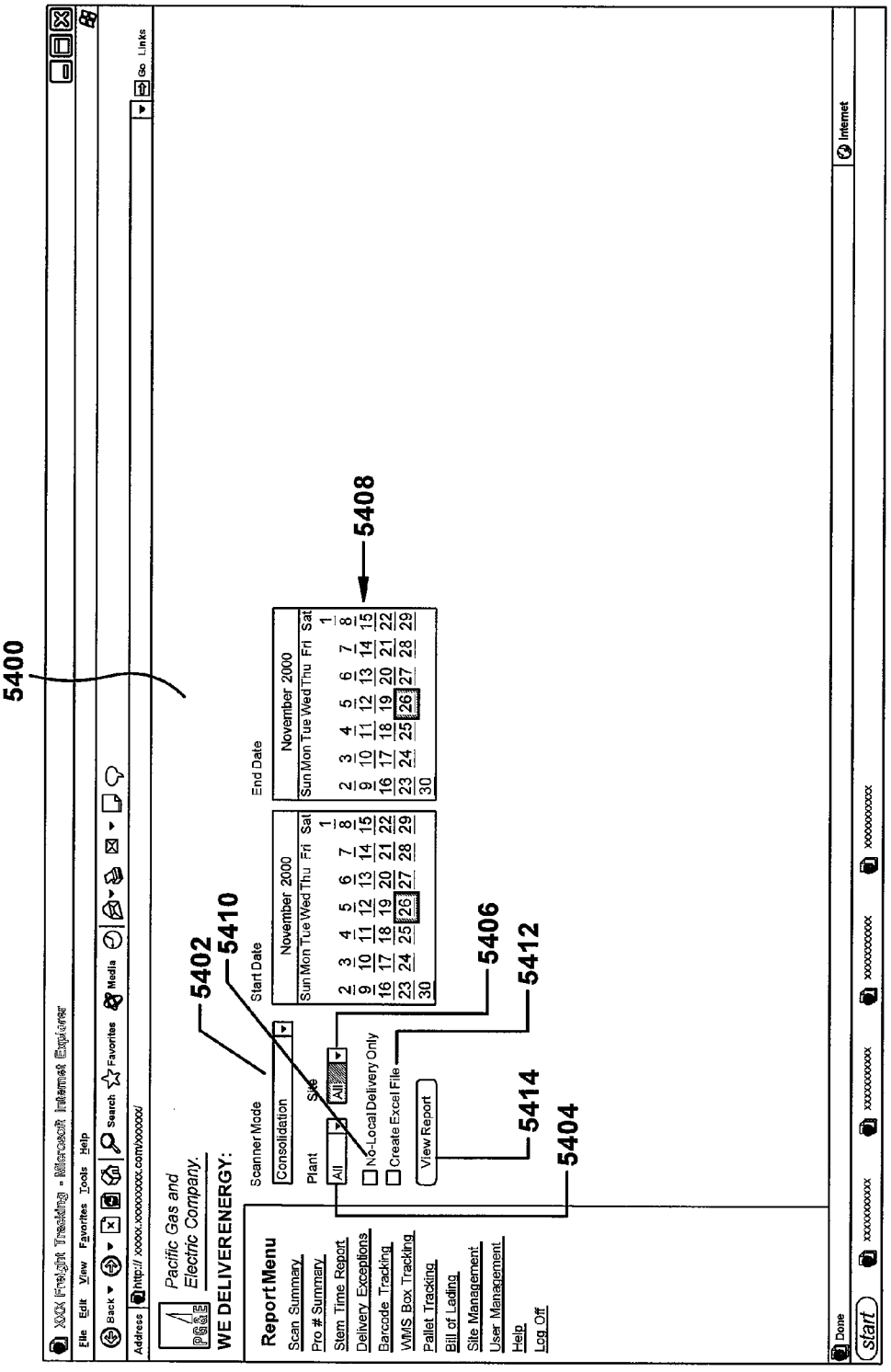

5400
5402
5410
5406
5412
5414
5404
5408
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Pacific Gas and Electric Company.
WE DELIVERENERGY:
Scanner Mode
Consolidation
Plant
All
Site
All
Start Date
End Date
November 2000
Sun Mon Tue Wed Thu Fri Sat
No-Local Delivery Only
Create Excel File
View Report
Start
Internet

Figure 54

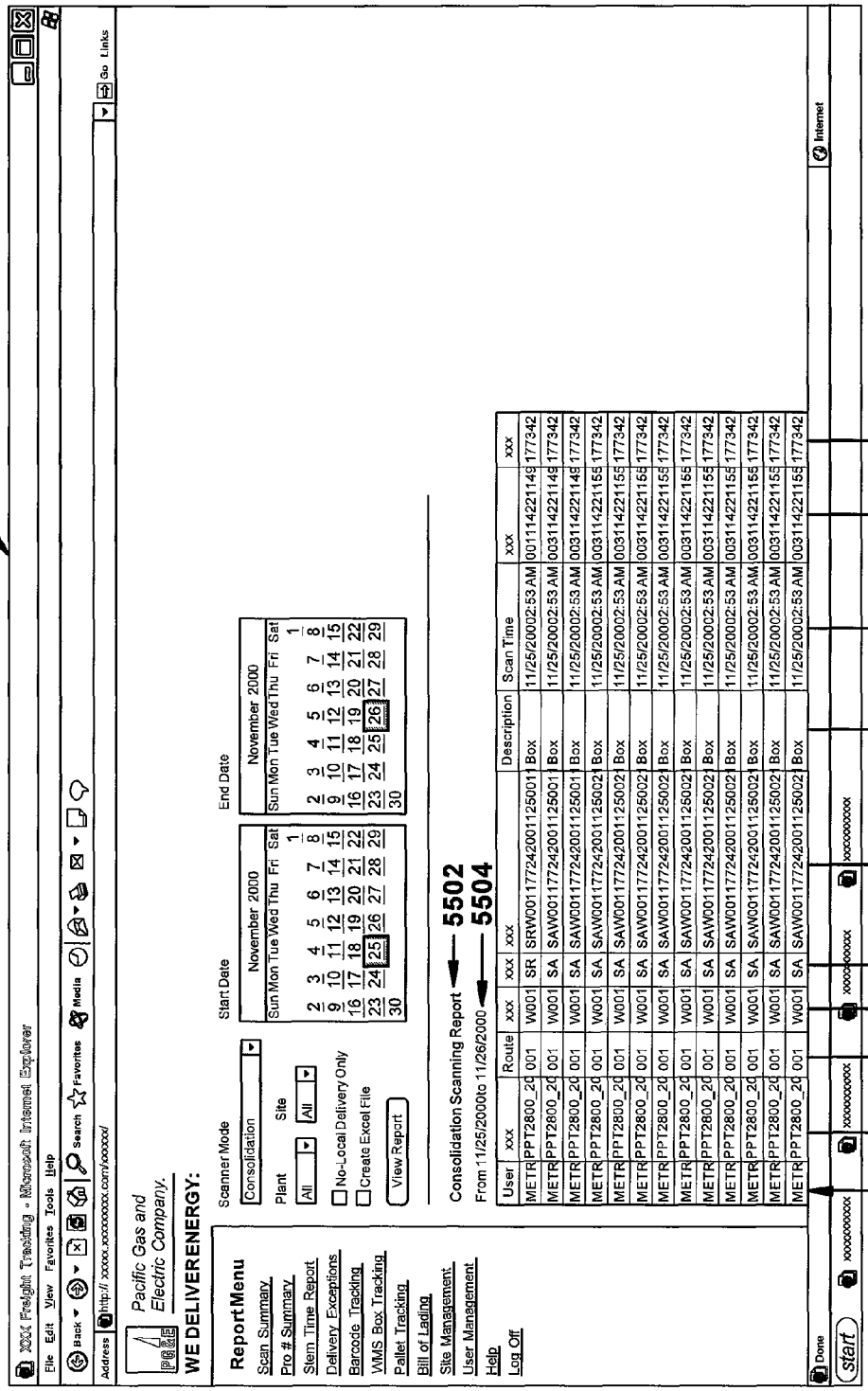

5500
5502
5504
5506
5508
5510
5512
5514
5516
5518
5520
5522
5524

Figure 55

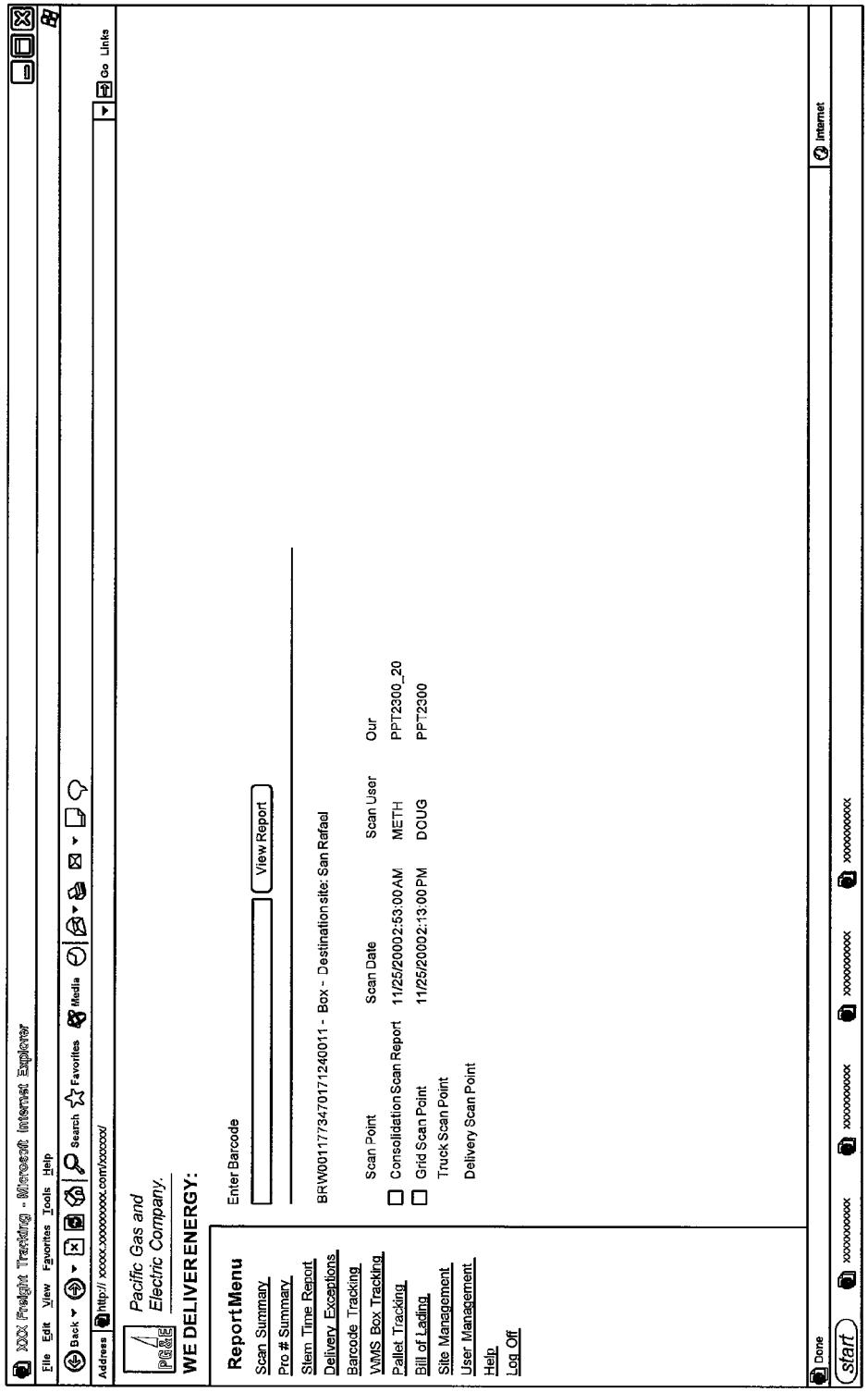

XXX Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http:// xxxx.xxxxxxxx.com/xxxxx/
Go Links
Pacific Gas and Electric Company.
PG&E
WE DELIVER ENERGY:
ReportMenu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Enter Barcode
View Report
BRW001177347017171240011 - Box - Destination site: San Rafael
Scan Point
Scan Date
Scan User
Our
Consolidation Scan Report
11/25/2000 2:53:00 AM
METH
PPT2300_20
Grid Scan Point
11/25/2000 2:13:00 PM
DOUG
PPT2300
Truck Scan Point
Delivery Scan Point
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 56

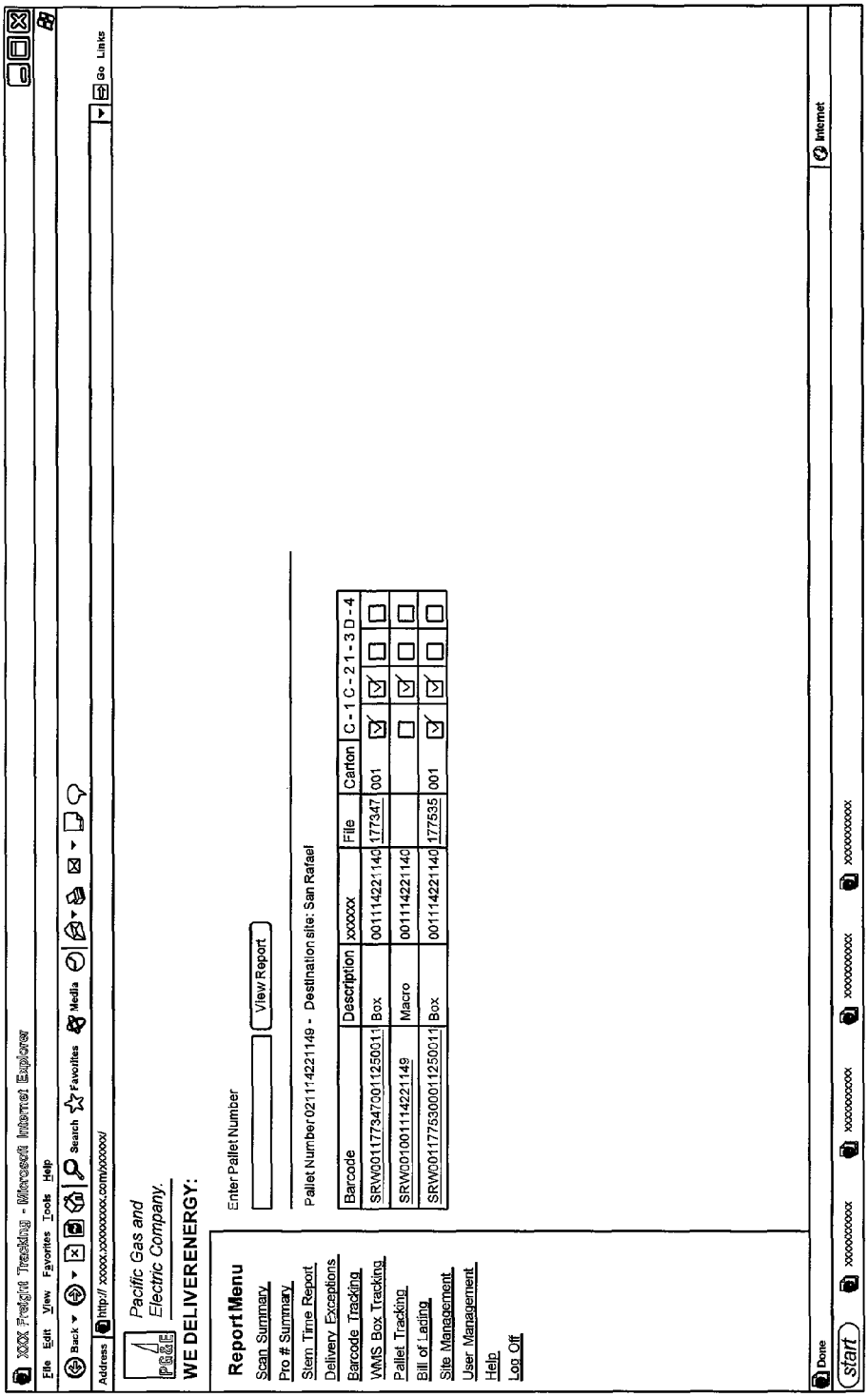

XXX Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://xxxxx.xxxxxxxx.com/xxxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
VMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Enter Pallet Number
View Report
Pallet Number 021114221149 - Destination site: San Rafael
Barcode
Description
xxxxxx
File
Carton
C-1 C-21-3 D-4
SRW001177947001250011
Box
001114221140
177347
001
SRW001001114221149
Macro
001114221140
SRW001177630001250011
Box
001114221140
177535
001
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 57

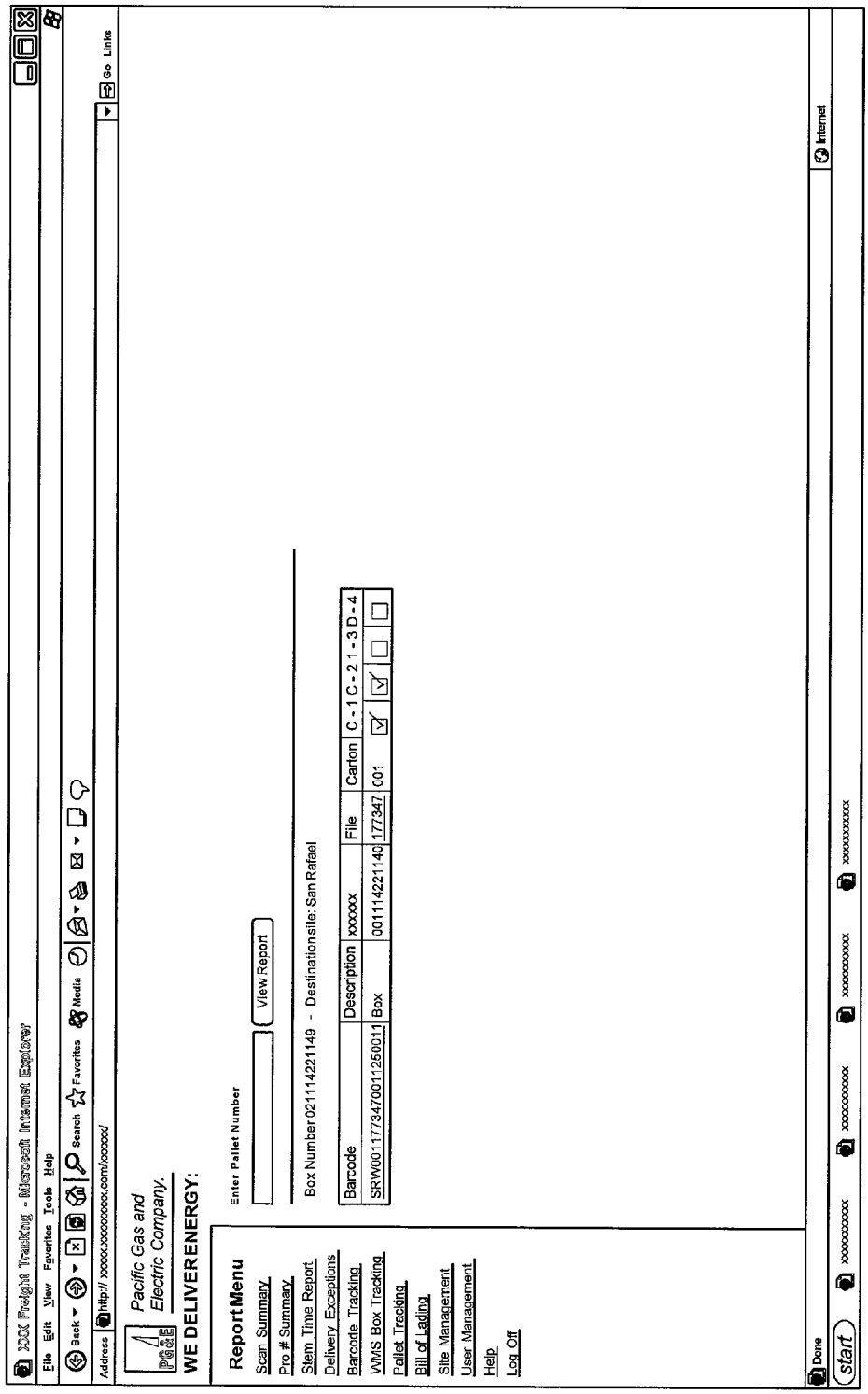

XXX Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://xxxx.xxxxxxxx.com/xxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVERENERGY:
ReportMenu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Enter Pallet Number
View Report
Box Number 021114221149 - Destination site: San Rafael
Barcode
Description
xxxxx
File
Carton
C-1 C-2 1-3 D-4
SRW001177347001 1250011
Box
001114221140
177347
001
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 58

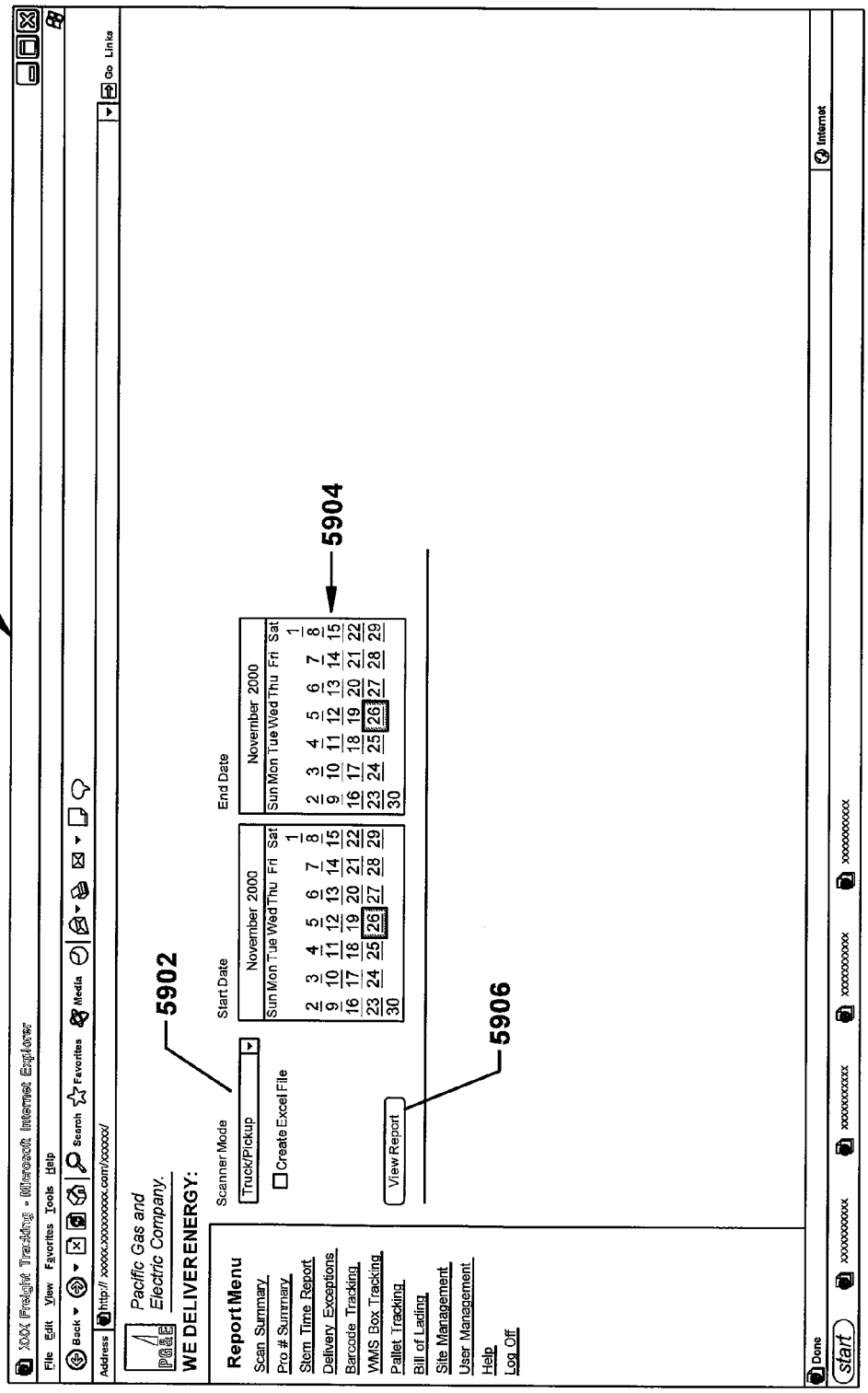

5900
XXX Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http:// xxxxx.xxxxxxxxx.com/xxxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
5902
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Scanner Mode
Truck/Pickup
Create Excel File
Start Date
End Date
November 2000
Sun Mon Tue Wed Thu Fri Sat
5904
View Report
5906
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 59

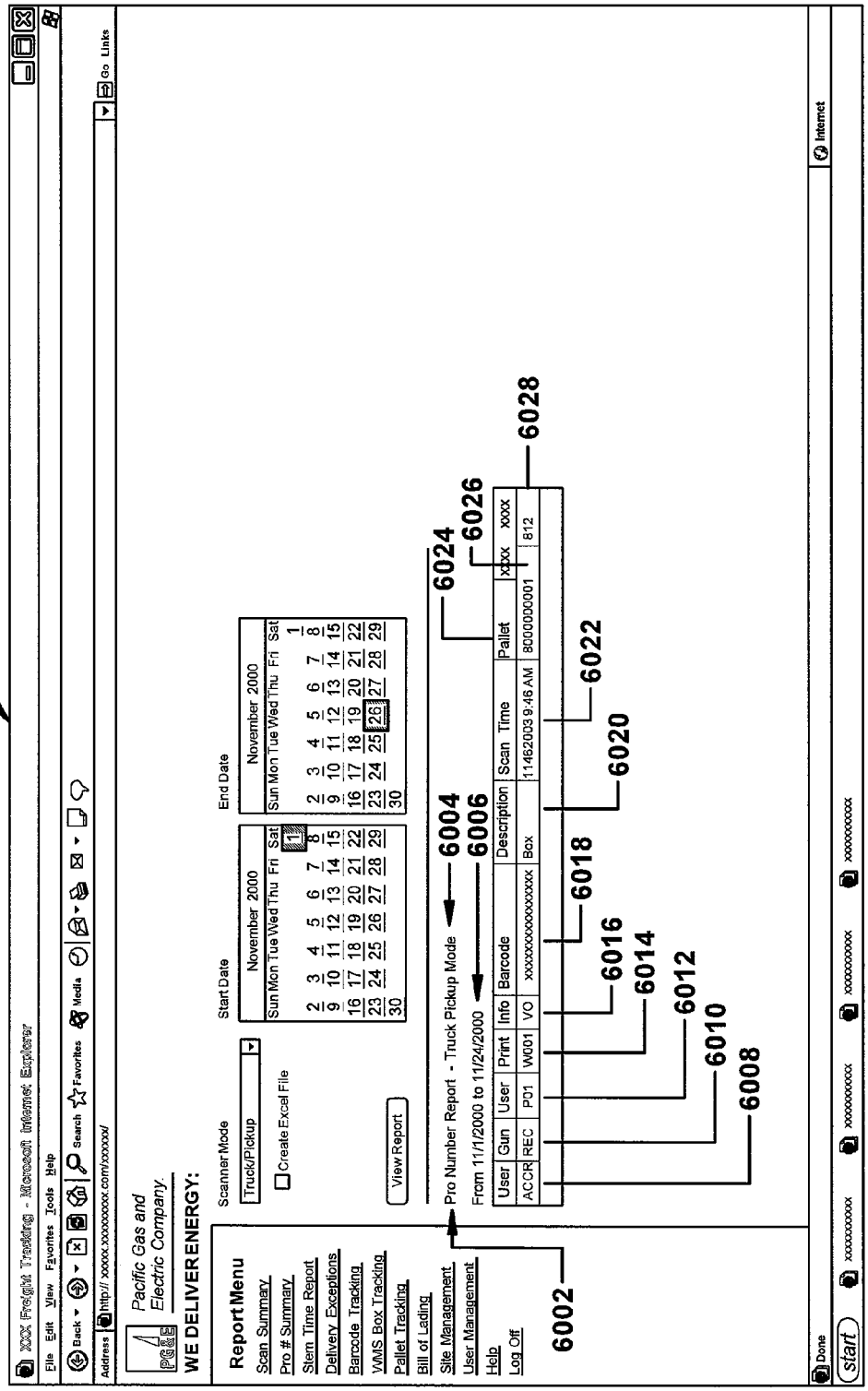

6000
XX Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://xxxx.xxxxxxxx.com/xxxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
VMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Scanner Mode
Truck/Pickup
Create Excel File
Start Date
End Date
November 2000
Sun Mon Tue Wed Thu Fri Sat
View Report
Pro Number Report - Truck Pickup Mode
From 11/1/2000 to 11/24/2000
User Gun User Print Info Barcode Description Scan Time Pallet
ACCR REC P01 W001 VO xxxxxxxxxxxxxxx Box 11462003 9:46 AM 8000000001 812
xxxx xxxx
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
6002
6004
6006
6008
6010
6012
6014
6016
6018
6020
6022
6024
6026
6028

Figure 60

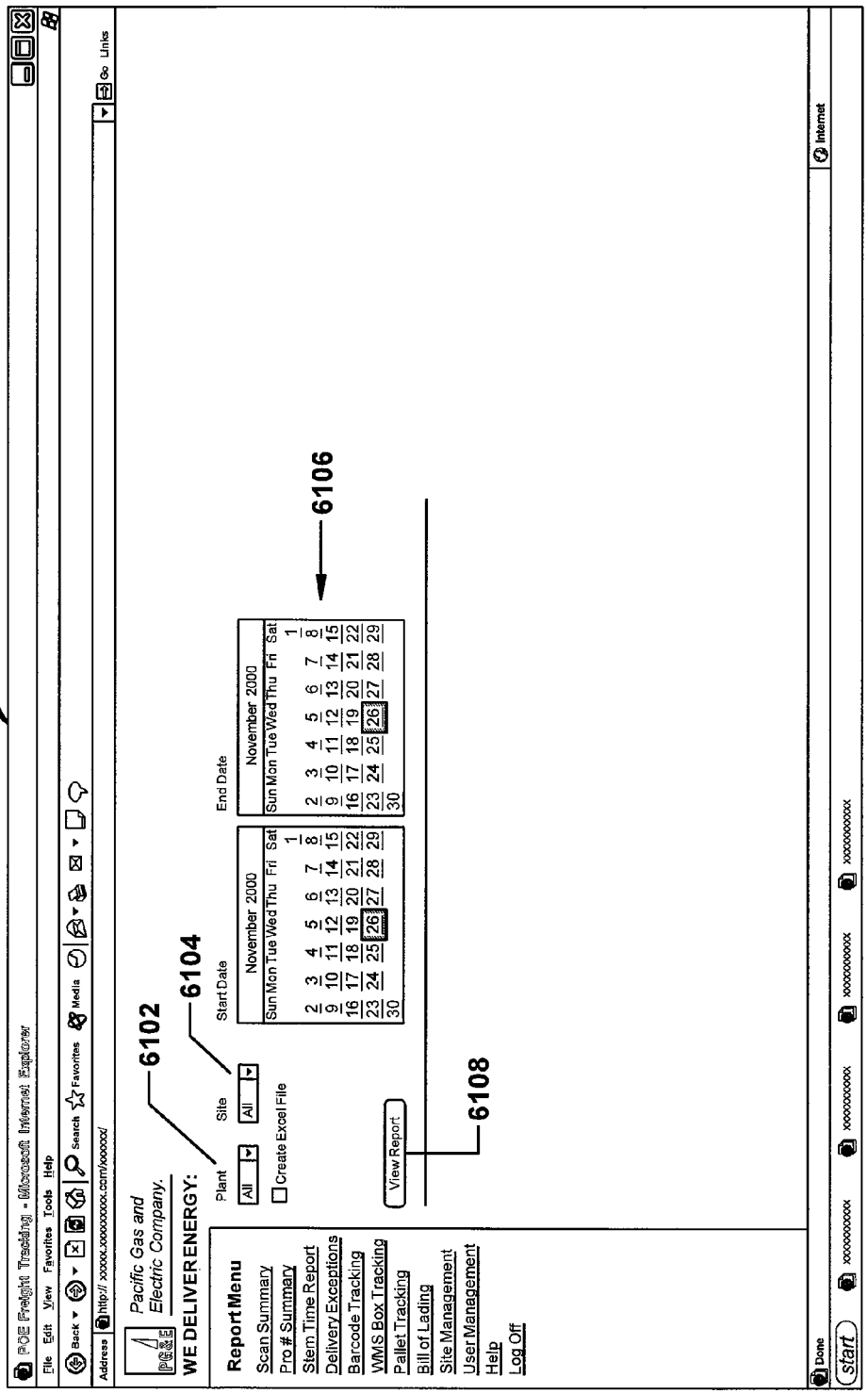

6100
6102
6104
6106
6108
PGE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http:// xxxxx.xxxxxxxxx.com/xxxxxx/
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Plant
All
Site
All
Create Excel File
Start Date
End Date
November 2000
Sun Mon Tue Wed Thu Fri Sat
View Report
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 61

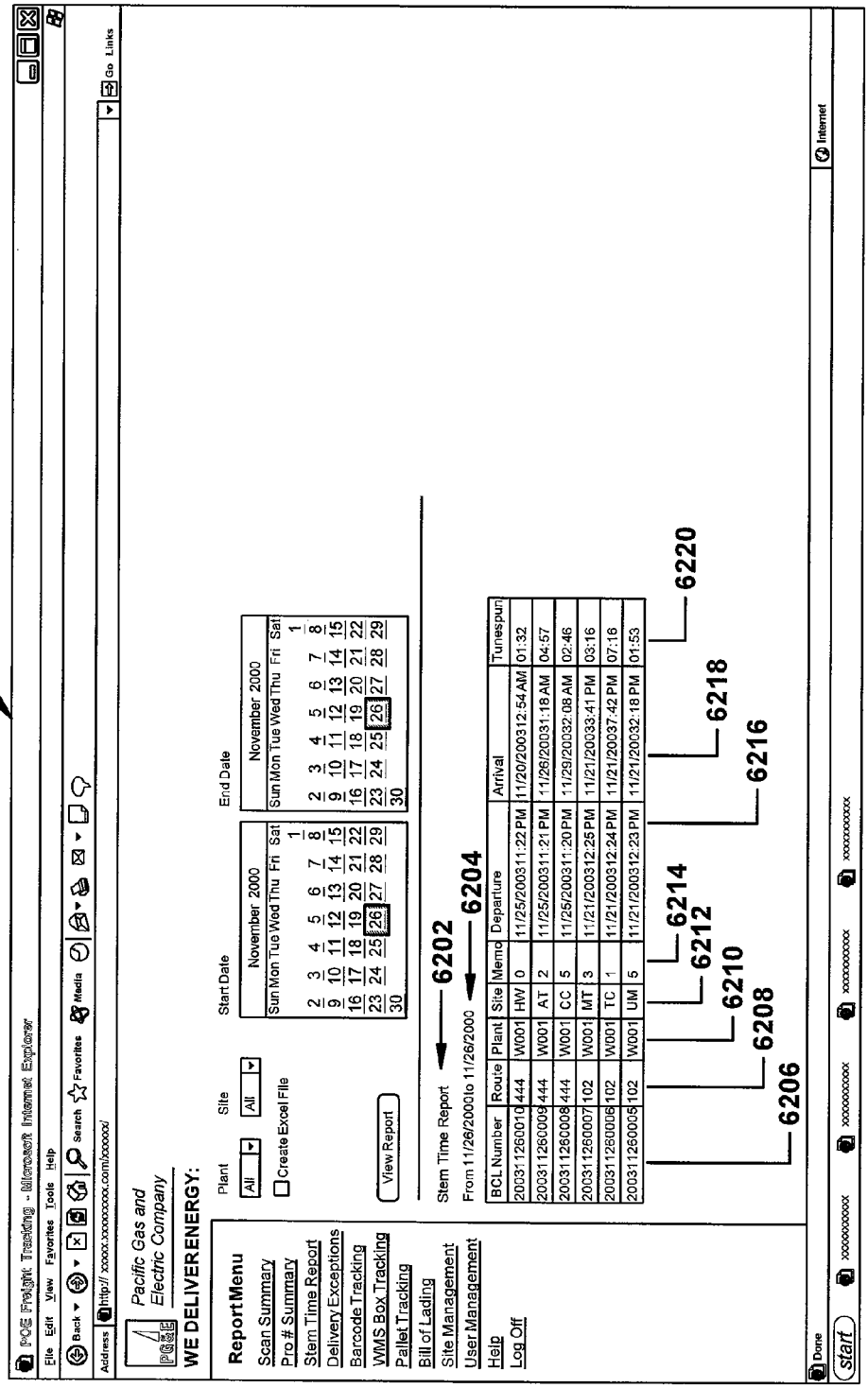

6200
PGE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http:// xxxxx.xxxxxxxxx.com/xxxxxx/
Go Links
Pacific Gas and Electric Company
WE DELIVER ENERGY:
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Plant
All
Site
All
Create Excel File
Start Date
November 2000
Sun Mon Tue Wed Thu Fri Sat
1
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30
End Date
November 2000
Sun Mon Tue Wed Thu Fri Sat
1
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30
View Report
Stem Time Report
6202
From 11/26/2000 to 11/26/2000
6204
BCL Number | Route | Plant | Site | Memo | Departure | Arrival | Tunespun
2003112600104 | 44 | W001 | HW | 0 | 11/25/200311:22 PM | 11/20/200312:54 AM | 01:32
2003112600094 | 44 | W001 | AT | 2 | 11/25/200311:21 PM | 11/26/200311:18 AM | 04:57
2003112600084 | 44 | W001 | CC | 5 | 11/25/200311:20 PM | 11/29/200332:08 AM | 02:46
2003112600071 | 02 | W001 | MT | 3 | 11/21/200312:25 PM | 11/21/200333:41 PM | 03:16
2003112600061 | 02 | W001 | TC | 1 | 11/21/200312:24 PM | 11/21/200337:42 PM | 07:16
2003112600051 | 02 | W001 | UM | 5 | 11/21/200312:23 PM | 11/21/200332:18 PM | 01:53
6206
6208
6210
6212
6214
6216
6218
6220
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 62

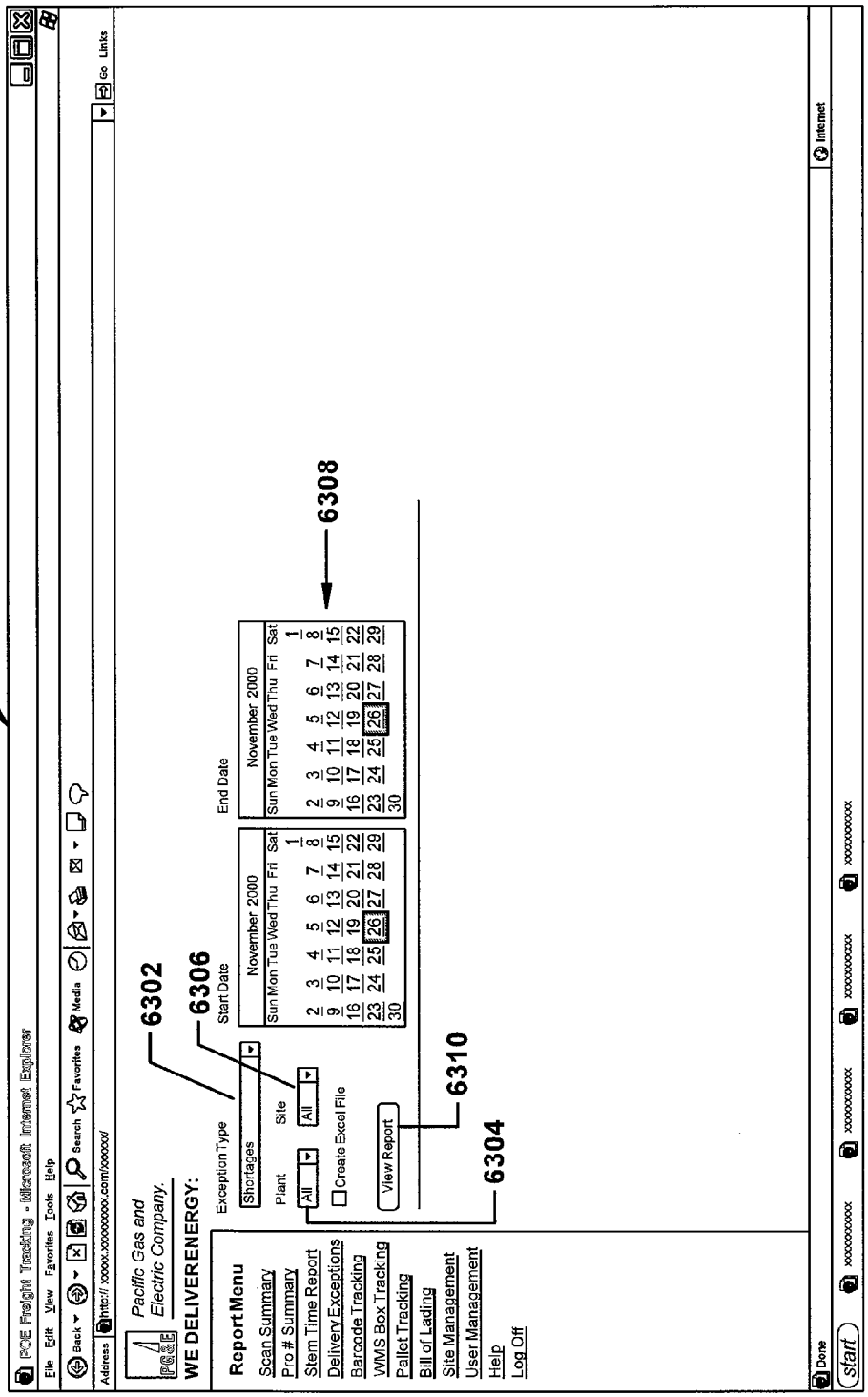

6300
6302
6304
6306
6308
6310
PGE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Exception Type
Shortages
Plant
All
Site
All
Create Excel File
View Report
Start Date
End Date
November 2000
Sun Mon Tue Wed Thu Fri Sat
Done
Internet
start

Figure 63

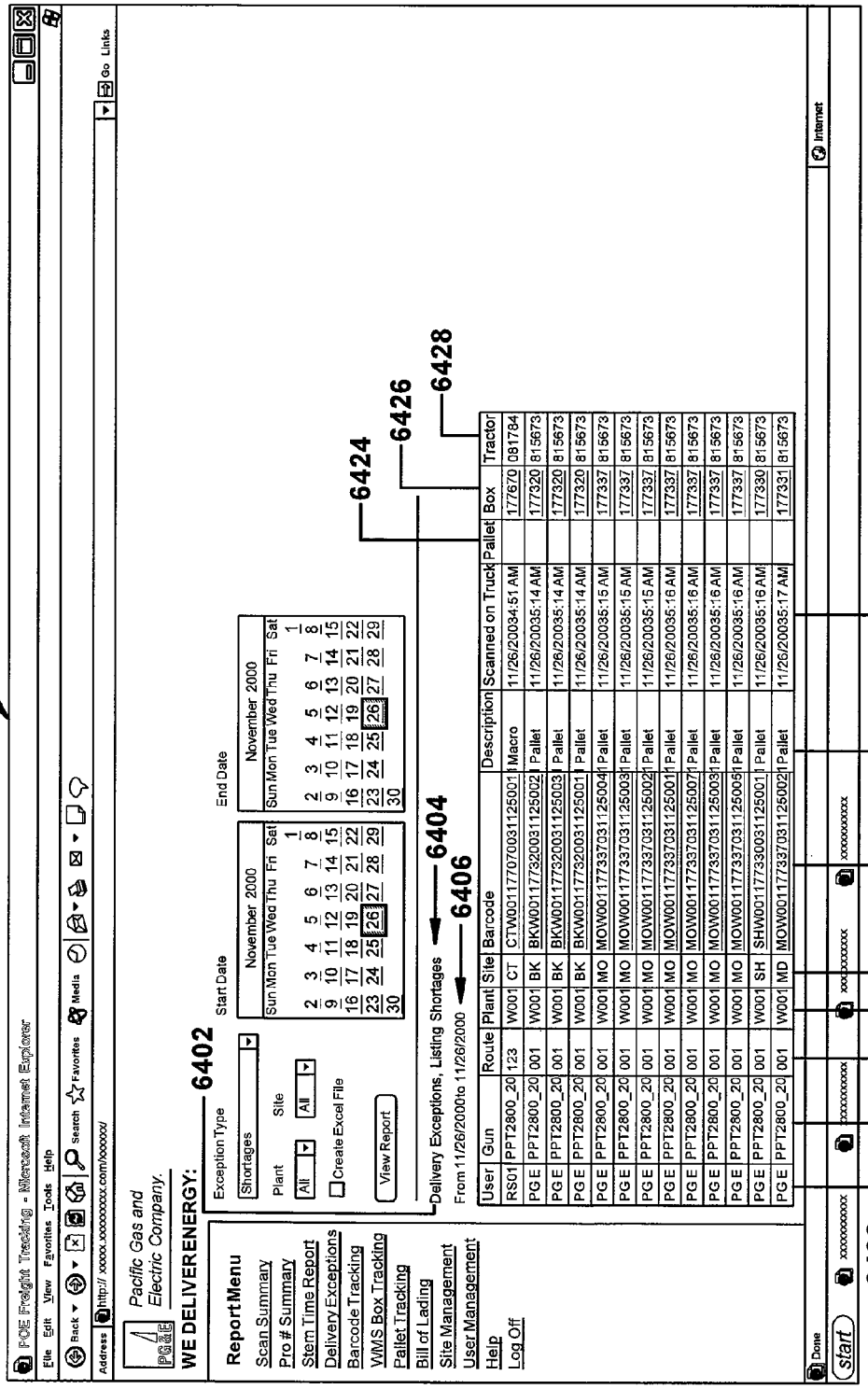

6400
POE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://xxxx.xxxxxxxxx.com/xxxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
6402
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Exception Type
Shortages
Plant
All
Site
All
Create Excel File
View Report
Start Date
End Date
November 2000
Sun Mon Tue Wed Thu Fri Sat
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
6424
6426
6428
Delivery Exceptions, Listing Shortages
6404
6406
From 11/26/2000 to 11/26/2000
User Gun Route Plant Site Barcode Description Scanned on Truck Pallet Box Tractor
RS01 PPT2800_20 123 W001 CT CTW001177070031125001 Macro 11/26/20034:51 AM 177670 081784
PGE PPT2800_20 001 W001 BK BKW001177320031125002 Pallet 11/26/20035:14 AM 177320 815673
PGE PPT2800_20 001 W001 BK BKW001177320031125003 Pallet 11/26/20035:14 AM 177320 815673
PGE PPT2800_20 001 W001 BK BKW001177320031125001 Pallet 11/26/20035:14 AM 177320 815673
PGE PPT2800_20 001 W001 MO MOW001177337031125004 Pallet 11/26/20035:15 AM 177337 815673
PGE PPT2800_20 001 W001 MO MOW001177337031125003 Pallet 11/26/20035:15 AM 177337 815673
PGE PPT2800_20 001 W001 MO MOW001177337031125002 Pallet 11/26/20035:15 AM 177337 815673
PGE PPT2800_20 001 W001 MO MOW001177337031125001 Pallet 11/26/20035:16 AM 177337 815673
PGE PPT2800_20 001 W001 MO MOW001177337031125007 Pallet 11/26/20035:16 AM 177337 815673
PGE PPT2800_20 001 W001 MO MOW001177337031125003 Pallet 11/26/20035:16 AM 177337 815673
PGE PPT2800_20 001 W001 MO MOW001177337031125006 Pallet 11/26/20035:16 AM 177337 815673
PGE PPT2800_20 001 W001 SH SHW001177330031125001 Pallet 11/26/20035:16 AM 177330 815673
PGE PPT2800_20 001 W001 MD MOW001177337031125002 Pallet 11/26/20035:17 AM 177331 815673
6422
6420
6418
6416
6414
6412
6410
6408
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 64

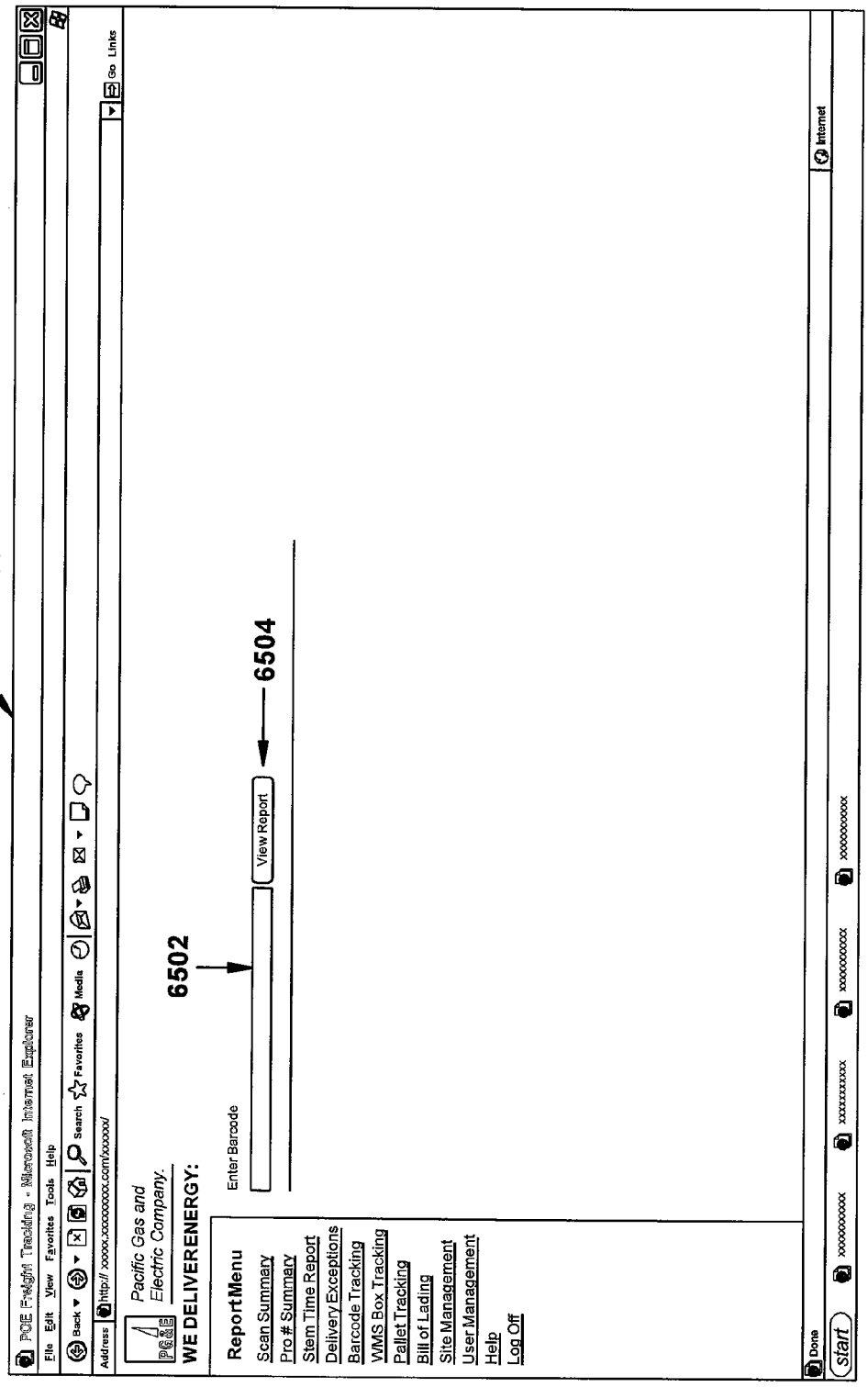

6500
POE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://xxxx.xxxxxxxx.com/xxxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVERENERGY:
6502
Enter Barcode
View Report
6504
ReportMenu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Done
Internet
Start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 65

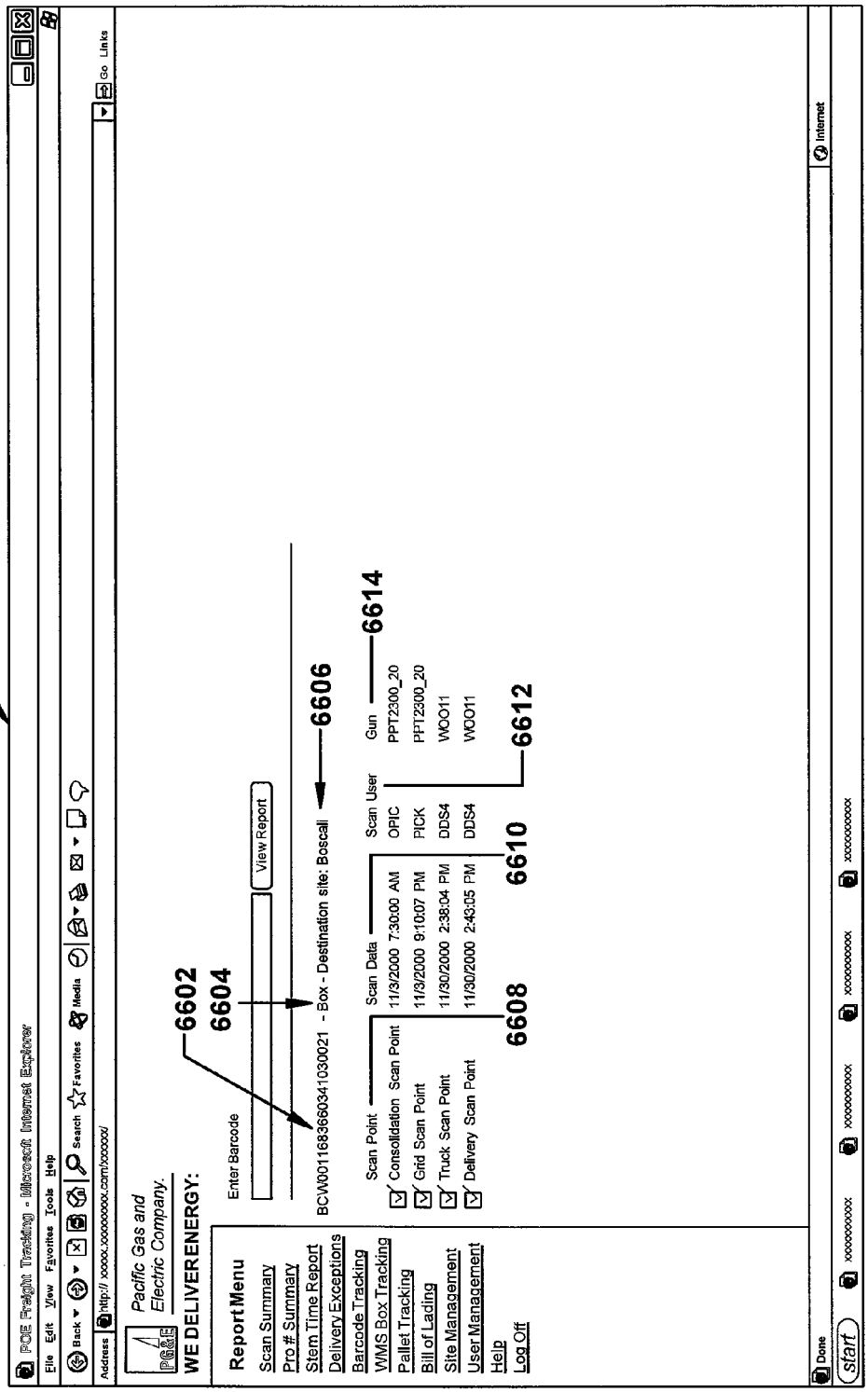

6600
POE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://xxxx.xxxxxxxx.com/xxxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
6602
6604
Enter Barcode
View Report
6606
BCW001168366034103002 1 - Box - Destination site: Boscall
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Scan Point
Scan Data
Scan User
Gun
6614
Consolidation Scan Point
11/3/2000 7:30:00 AM
OPIC
PPT2300_20
Grid Scan Point
11/3/2000 9:10:07 PM
PICK
PPT2300_20
Truck Scan Point
11/30/2000 2:38:04 PM
DDS4
WOO11
Delivery Scan Point
11/30/2000 2:43:05 PM
DDS4
WOO11
6608
6610
6612
Done
Internet
Start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 66

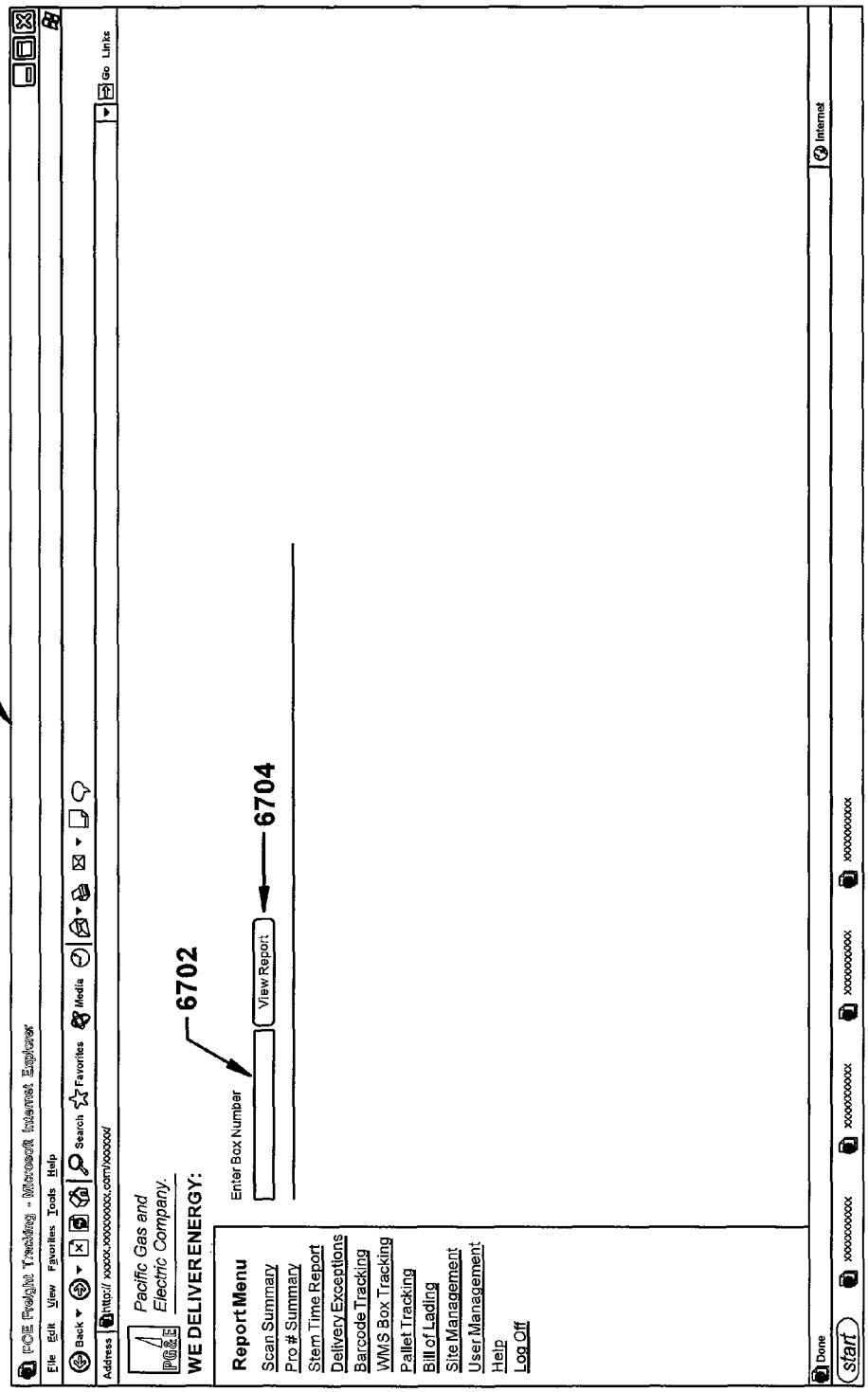

6700
PGE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://xxxx.xxxxxxxxx.com/xxxxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
6702
Enter Box Number
View Report
6704
ReportMenu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 67

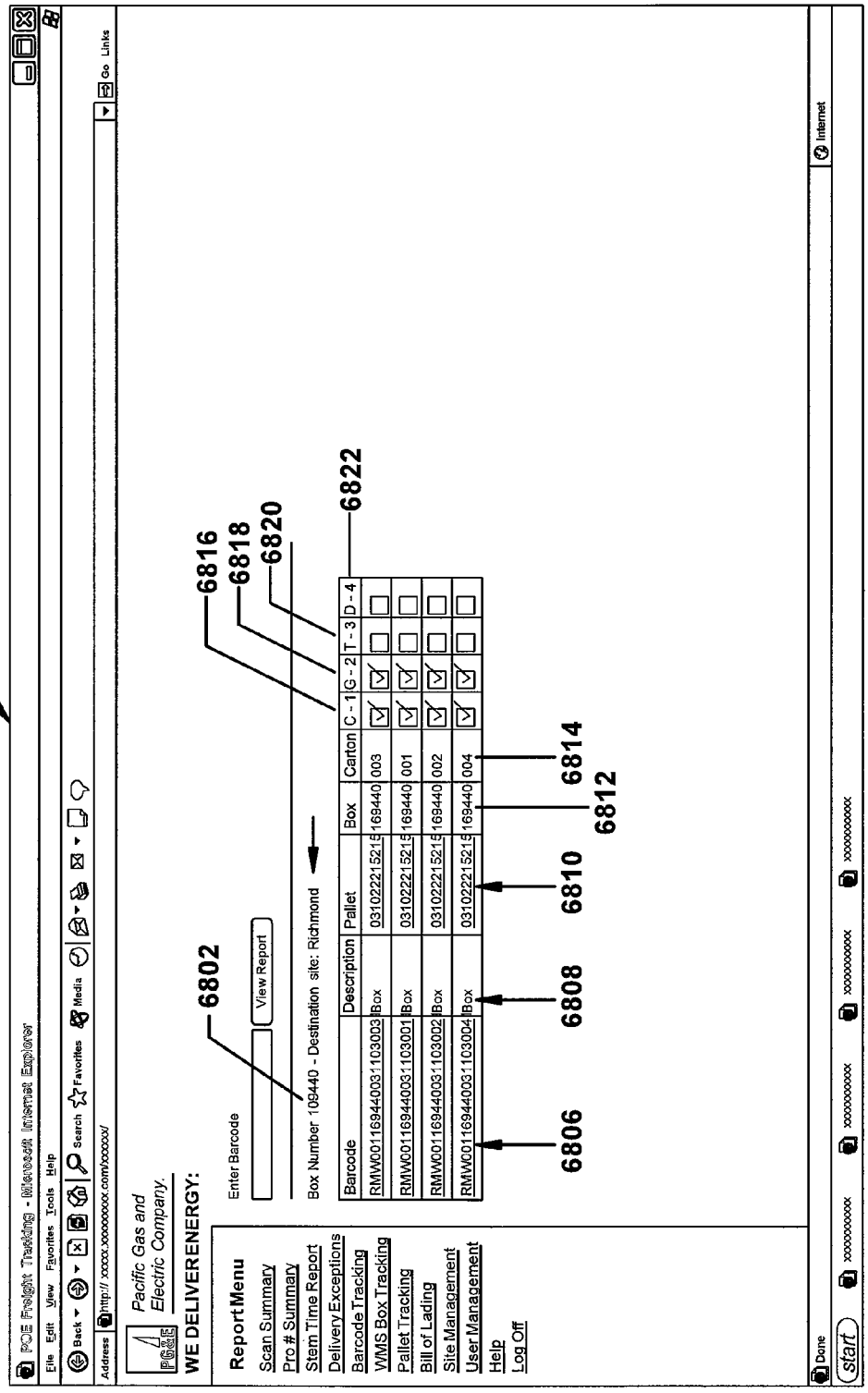

6800
POE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://xxxx.xxxxxxxx.com/xxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Enter Barcode
View Report
Box Number 109440 - Destination site: Richmond
6802
6816
6818
6820
6822
Barcode | Description | Pallet | Box | Carton | C - 1 | G - 2 | T - 3 | D - 4
RMWC0116944003 1103003 | Box | 031022215215 | 169440 | 003
RMWC0116944003 1103001 | Box | 031022215215 | 169440 | 001
RMWC0116944003 1103002 | Box | 031022215215 | 169440 | 002
RMWC0116944003 1103004 | Box | 031022215215 | 169440 | 004
6806
6808
6810
6812
6814
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 68

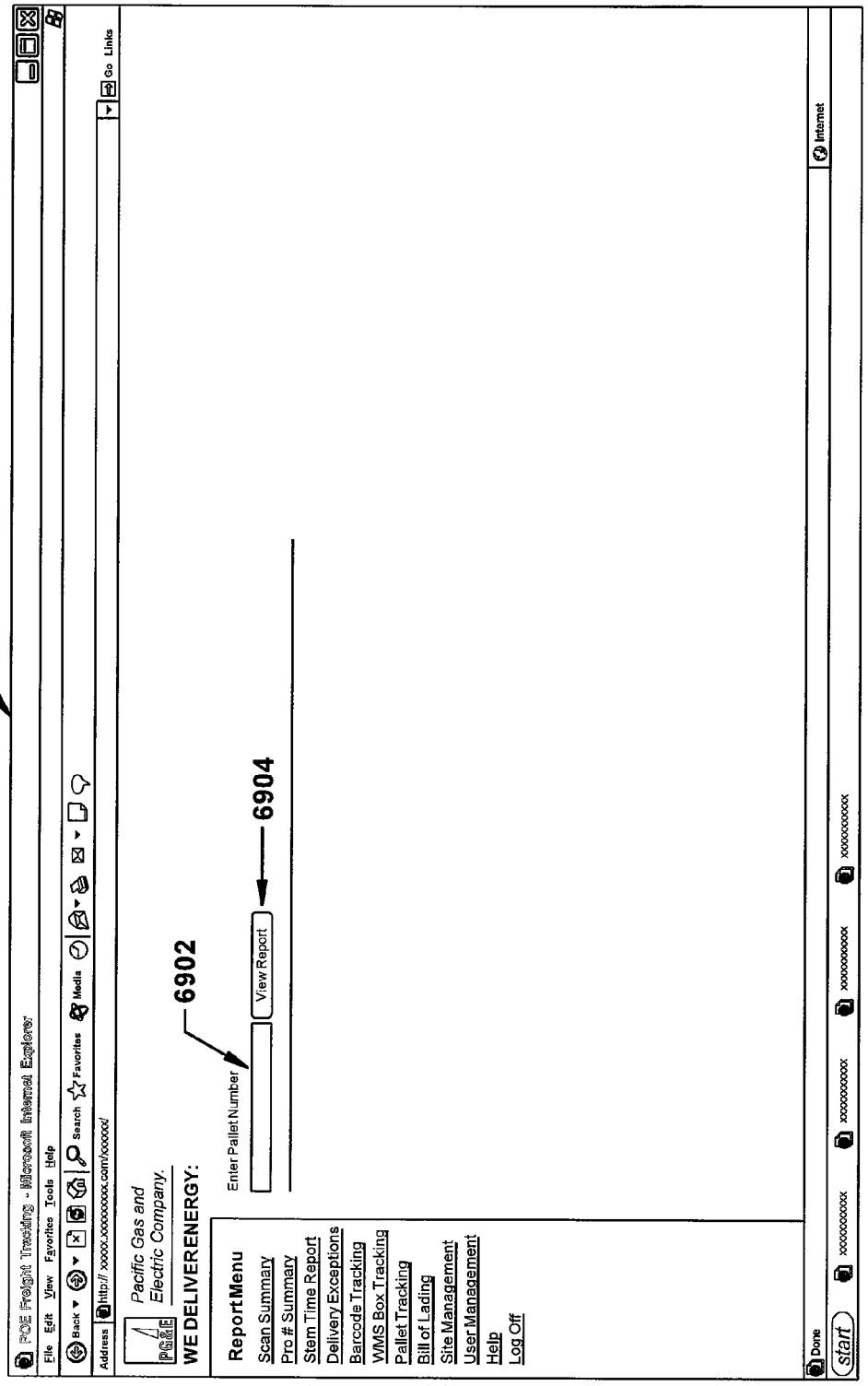

6900
POE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http:// xxxxx.xxxxxxxx.com/xxxxx/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
6902
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Enter Pallet Number
View Report
6904
Done
Internet
Start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 69

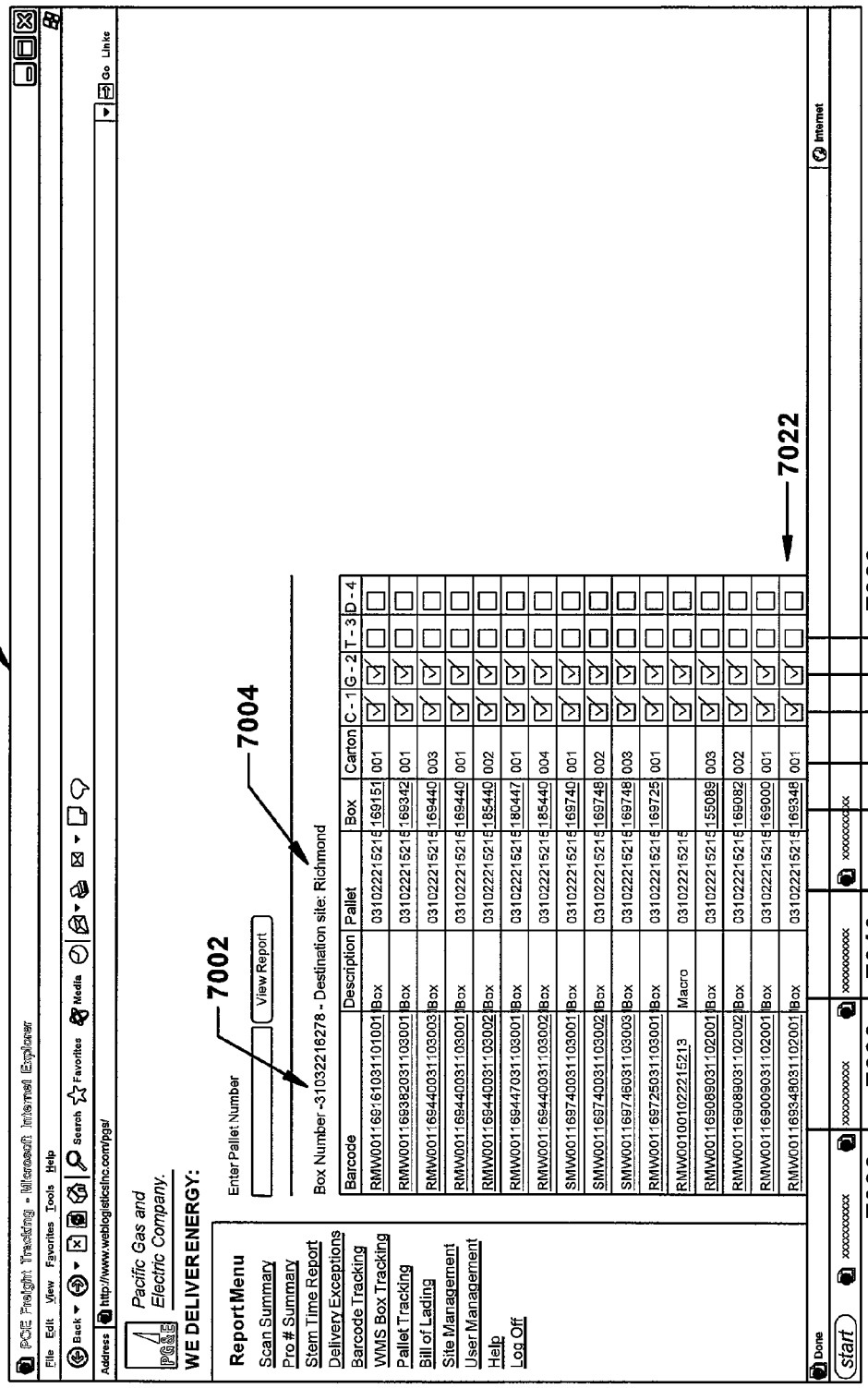

7000
PGE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://www.weblogisticsinc.com/pge/
Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
7002
Enter Pallet Number
View Report
7004
Box Number =31032216278 - Destination site: Richmond
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Barcode | Description | Pallet | Box | Carton | C - 1 | G - 2 | T - 3 | D - 4
RMW001169161031101001 | Box | 031022215215 | 169151 | 001
RMW001169382031103001 | Box | 031022215215 | 169342 | 001
RMW001169440031103003 | Box | 031022215215 | 169440 | 003
RMW001169440031103001 | Box | 031022215215 | 169440 | 001
RMW001169440031103002 | Box | 031022215215 | 185440 | 002
RMW001169447031103001 | Box | 031022215215 | 180447 | 001
RMW001169440031103002 | Box | 031022215215 | 185440 | 004
SMW001169740031103001 | Box | 031022215215 | 169740 | 001
SMW001169740031103002 | Box | 031022215215 | 169748 | 002
SMW001169746031103003 | Box | 031022215215 | 169748 | 003
RMW001169725031103001 | Box | 031022215215 | 169725 | 001
RMW001001022215213 | Macro | 031022215215
RMW001169089031102001 | Box | 031022215215 | 155089 | 003
RMW001169089031102002 | Box | 031022215215 | 165082 | 002
RMW001169009031102001 | Box | 031022215215 | 169000 | 001
RMW001169349031102001 | Box | 031022215215 | 169348 | 001
7022
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
7006
7008
7010
7012
7014
7016
7018
7020

Figure 70

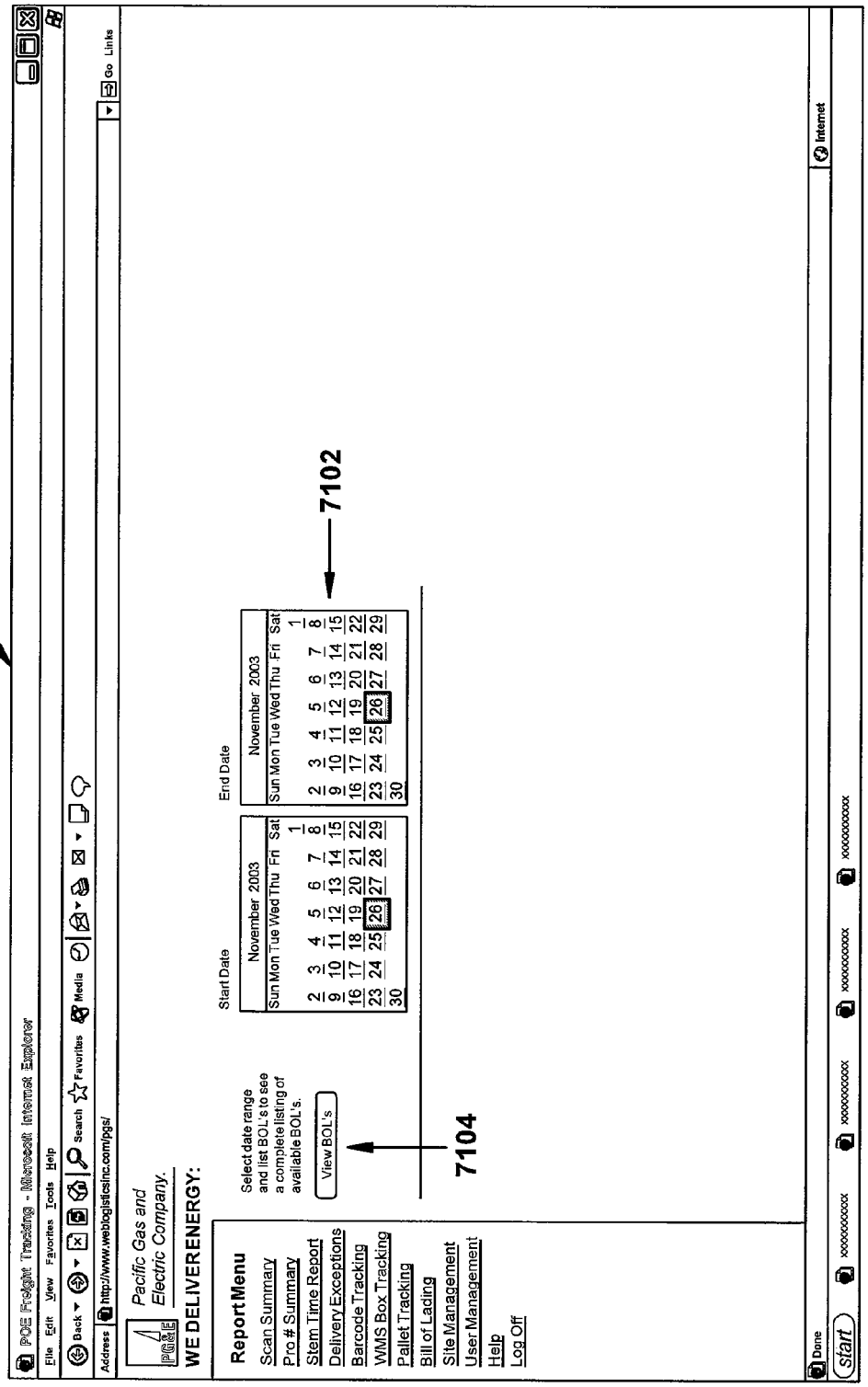

7100
POE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://www.weblogisticsinc.com/pgs/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Select date range and list BOL's to see a complete listing of available BOL's.
View BOL's
Start Date
End Date
November 2003
Sun Mon Tue Wed Thu Fri Sat
7102
7104
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 71

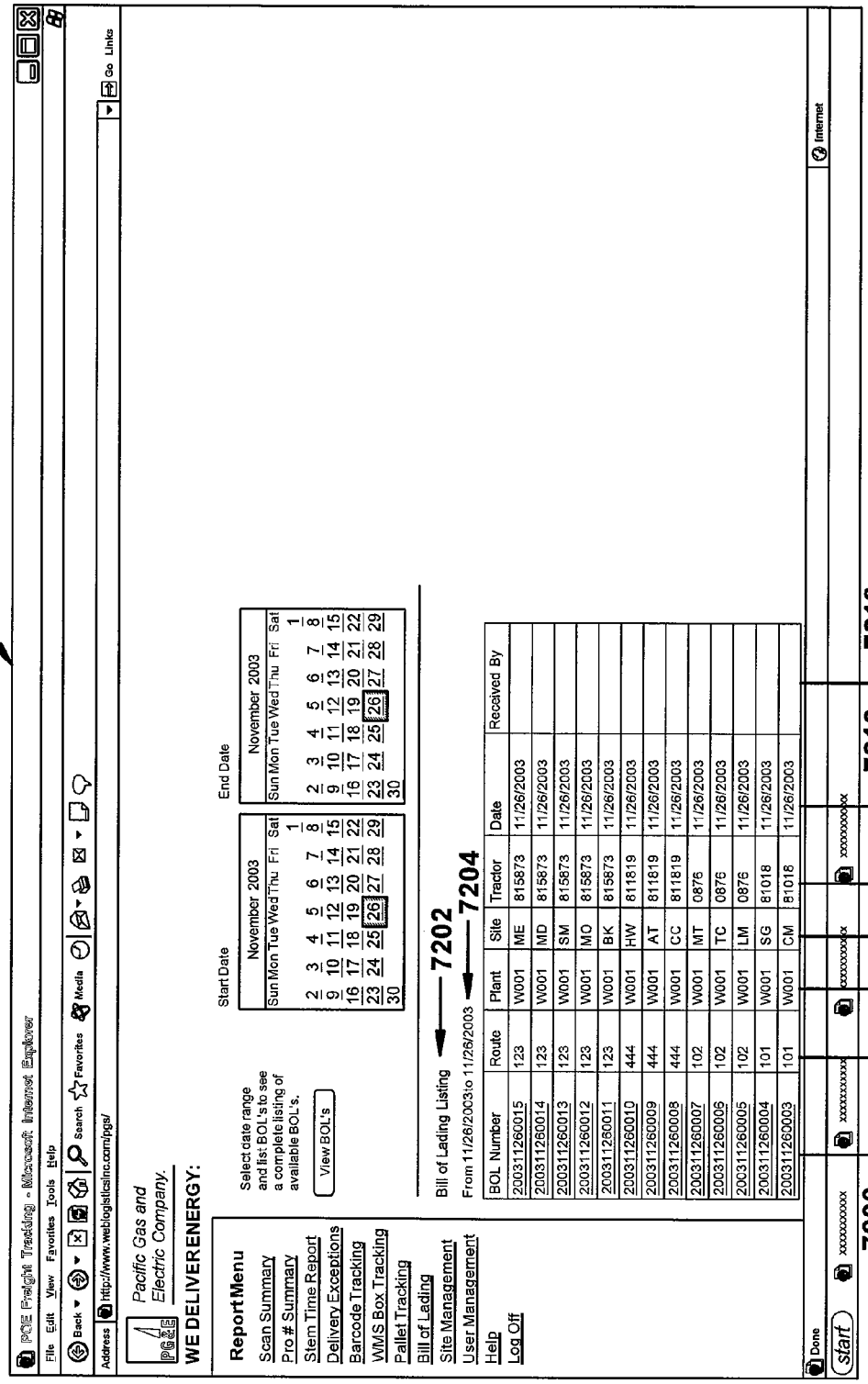

7200
PGE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://www.weblogisticsinc.com/pgs/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Select date range and list BOL's to see a complete listing of available BOL's.
View BOL's
Start Date
End Date
November 2003
Sun Mon Tue Wed Thu Fri Sat
Bill of Lading Listing
7202
From 11/26/2003 to 11/26/2003
7204
BOL Number | Route | Plant | Site | Tractor | Date | Received By
200311260015 | 123 | W001 | ME | 815873 | 11/26/2003
200311260014 | 123 | W001 | MD | 815873 | 11/26/2003
200311260013 | 123 | W001 | SM | 815873 | 11/26/2003
200311260012 | 123 | W001 | MO | 815873 | 11/26/2003
200311260011 | 123 | W001 | BK | 815873 | 11/26/2003
200311260010 | 444 | W001 | HW | 811819 | 11/26/2003
200311260009 | 444 | W001 | AT | 811819 | 11/26/2003
200311260008 | 444 | W001 | CC | 811819 | 11/26/2003
200311260007 | 102 | W001 | MT | 0876 | 11/26/2003
200311260006 | 102 | W001 | TC | 0876 | 11/26/2003
200311260005 | 102 | W001 | LM | 0876 | 11/26/2003
200311260004 | 101 | W001 | SG | 81018 | 11/26/2003
200311260003 | 101 | W001 | CM | 81018 | 11/26/2003
Done
Internet
start
7206
7208
7210
7212
7214
7216
7218

Figure 72

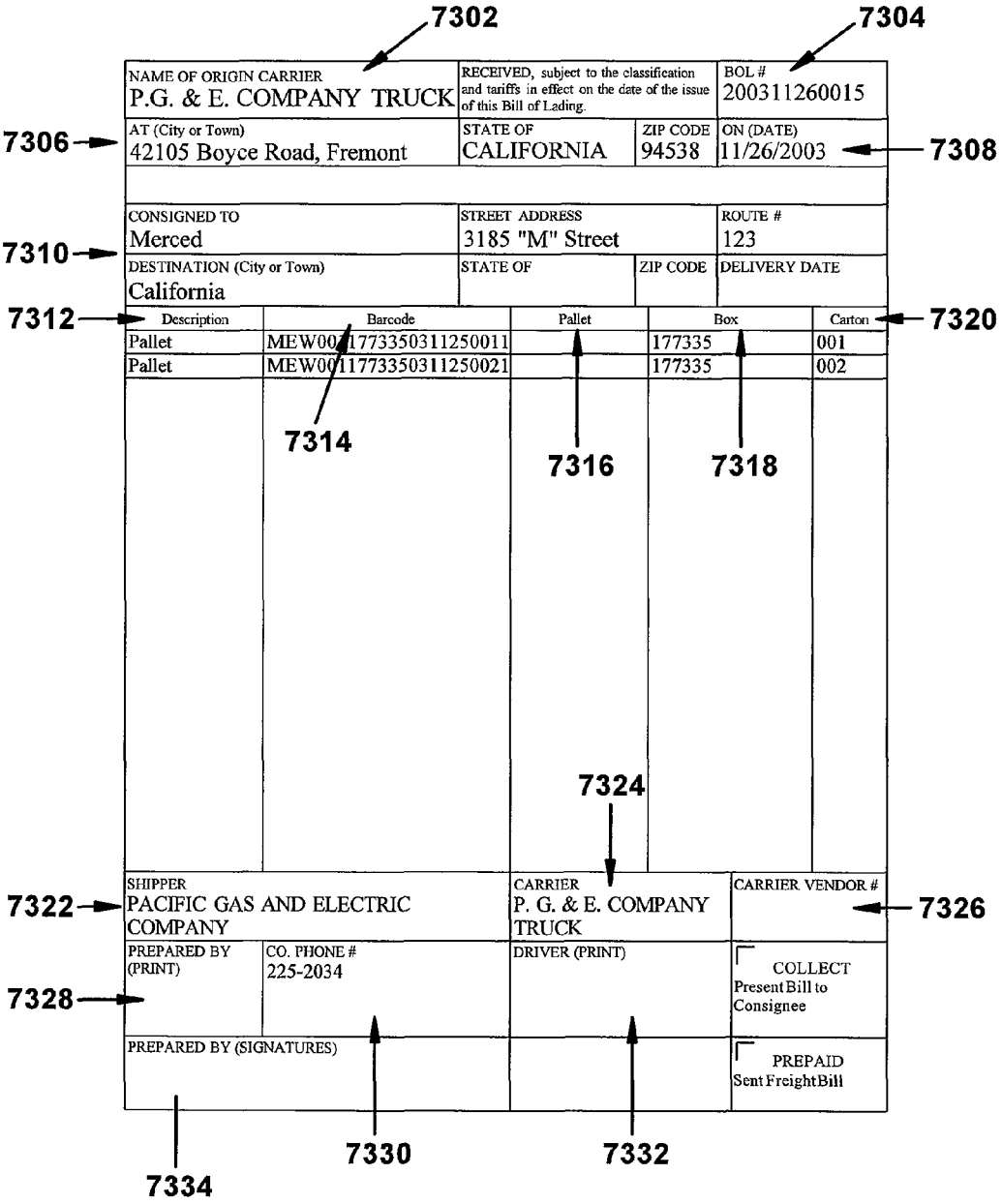

7302
7304
NAME OF ORIGIN CARRIER
P.G. & E. COMPANY TRUCK
RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Bill of Lading.
BOL #
200311260015
7306
AT (City or Town)
42105 Boyce Road, Fremont
STATE OF
CALIFORNIA
ZIP CODE
94538
ON (DATE)
11/26/2003
7308
CONSIGNED TO
Merced
STREET ADDRESS
3185 "M" Street
ROUTE #
123
7310
DESTINATION (City or Town)
California
STATE OF
ZIP CODE
DELIVERY DATE
7312
Description
Barcode
Pallet
Box
Carton
7320
Pallet
MEW00177335031125001 1
177335
001
Pallet
MEW00177335031125002 1
177335
002
7314
7316
7318
7324
SHIPPER
PACIFIC GAS AND ELECTRIC COMPANY
CARRIER
P. G. & E. COMPANY TRUCK
CARRIER VENDOR #
7322
7326
PREPARED BY (PRINT)
CO. PHONE #
225-2034
DRIVER (PRINT)
COLLECT
Present Bill to Consignee
7328
PREPARED BY (SIGNATURES)
PREPAID
Sent Freight Bill
7330
7332
7334

Figure 73

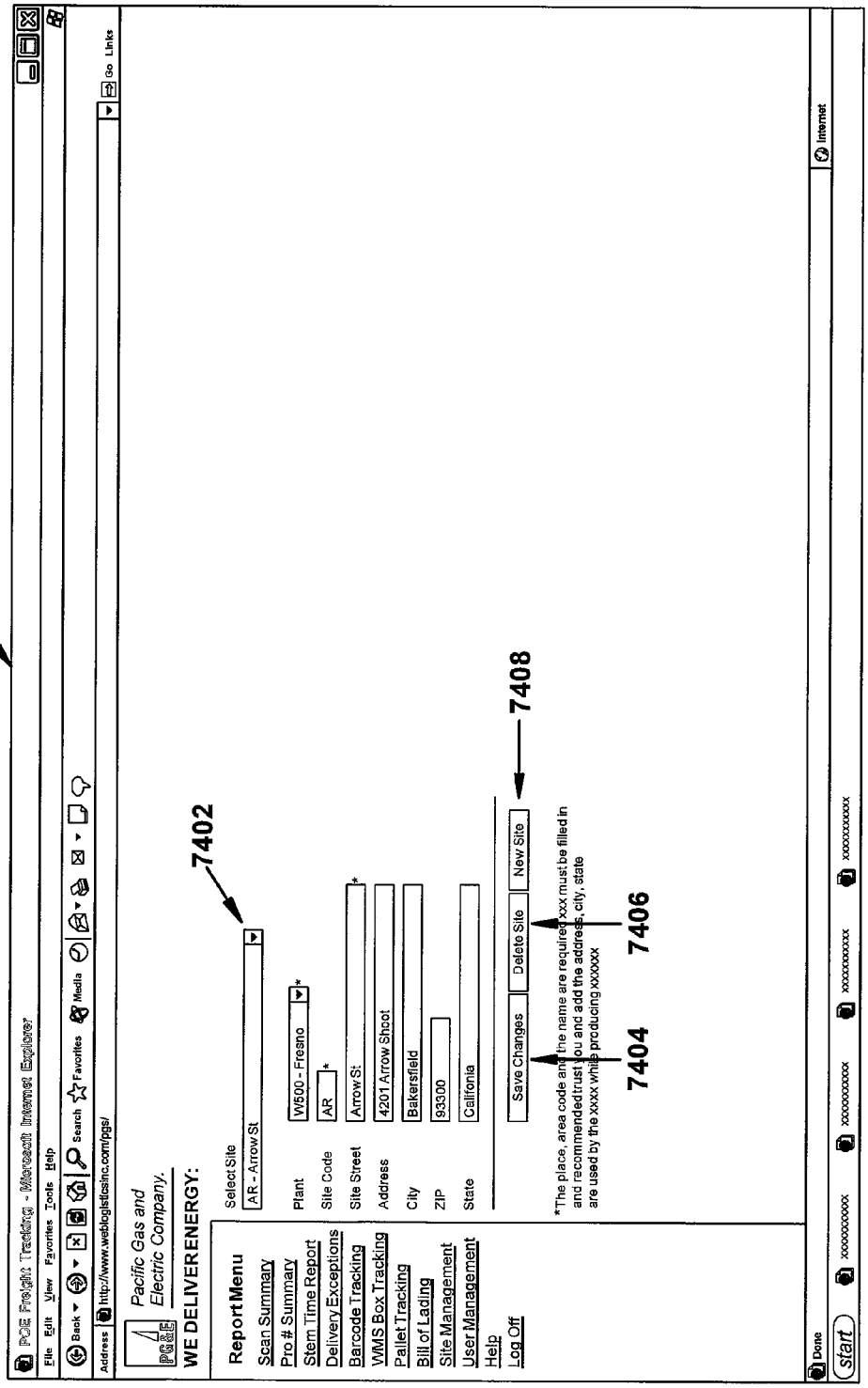

7400
POE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://www.weblogisticsinc.com/pgs/
Go Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
7402
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Select Site
AR - Arrow St
Plant
W600 - Fresno
Site Code
AR
Site Street
Arrow St
Address
4201 Arrow Shoot
City
Bakersfield
ZIP
93300
State
California
Save Changes
Delete Site
New Site
7408
*The place, area code and the name are required xxx must be filled in and recommendedtrust you and add the address, city, state are used by the xxxx while producing xxxxxx
7404
7406
Done
Internet
start
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Figure 74

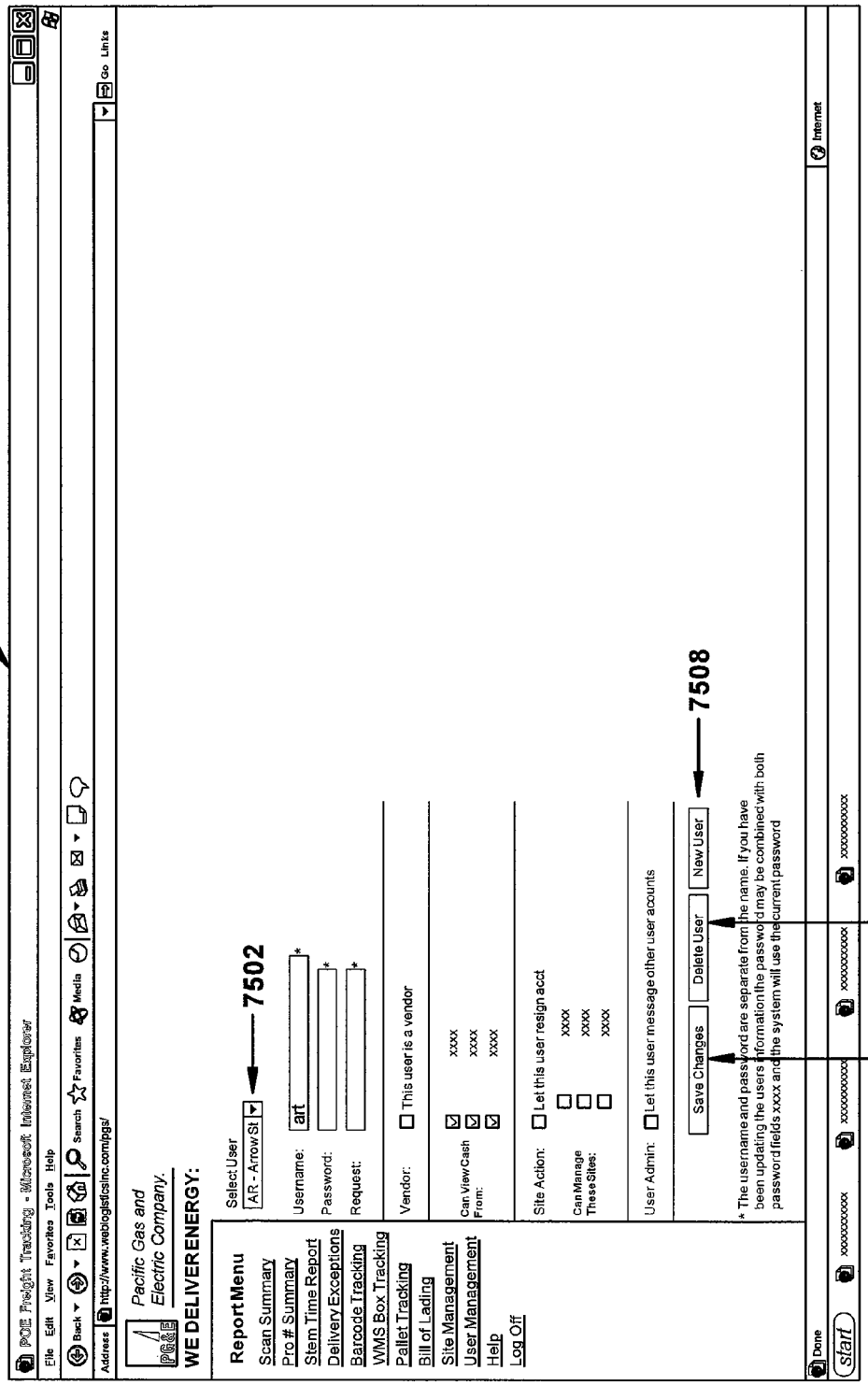

7500
POE Freight Tracking - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://www.weblogisticsinc.com/pgs/
Links
Pacific Gas and Electric Company.
WE DELIVER ENERGY:
Report Menu
Scan Summary
Pro # Summary
Stem Time Report
Delivery Exceptions
Barcode Tracking
WMS Box Tracking
Pallet Tracking
Bill of Lading
Site Management
User Management
Help
Log Off
Select User
AR - Arrow St
7502
Username:
art
Password:
Request:
Vendor:
This user is a vendor
Can View Cash From:
xxxx
xxxx
xxxx
Site Action:
Let this user resign acct
Can Manage These Sites:
xxxx
xxxx
xxxx
User Admin:
Let this user message other user accounts
Save Changes
Delete User
New User
7508
* The username and password are separate from the name. If you have been updating the users information the password may be combined with both password fields xxxx and the system will use the current password
7504
7506
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
Done
Internet
start

Figure 75

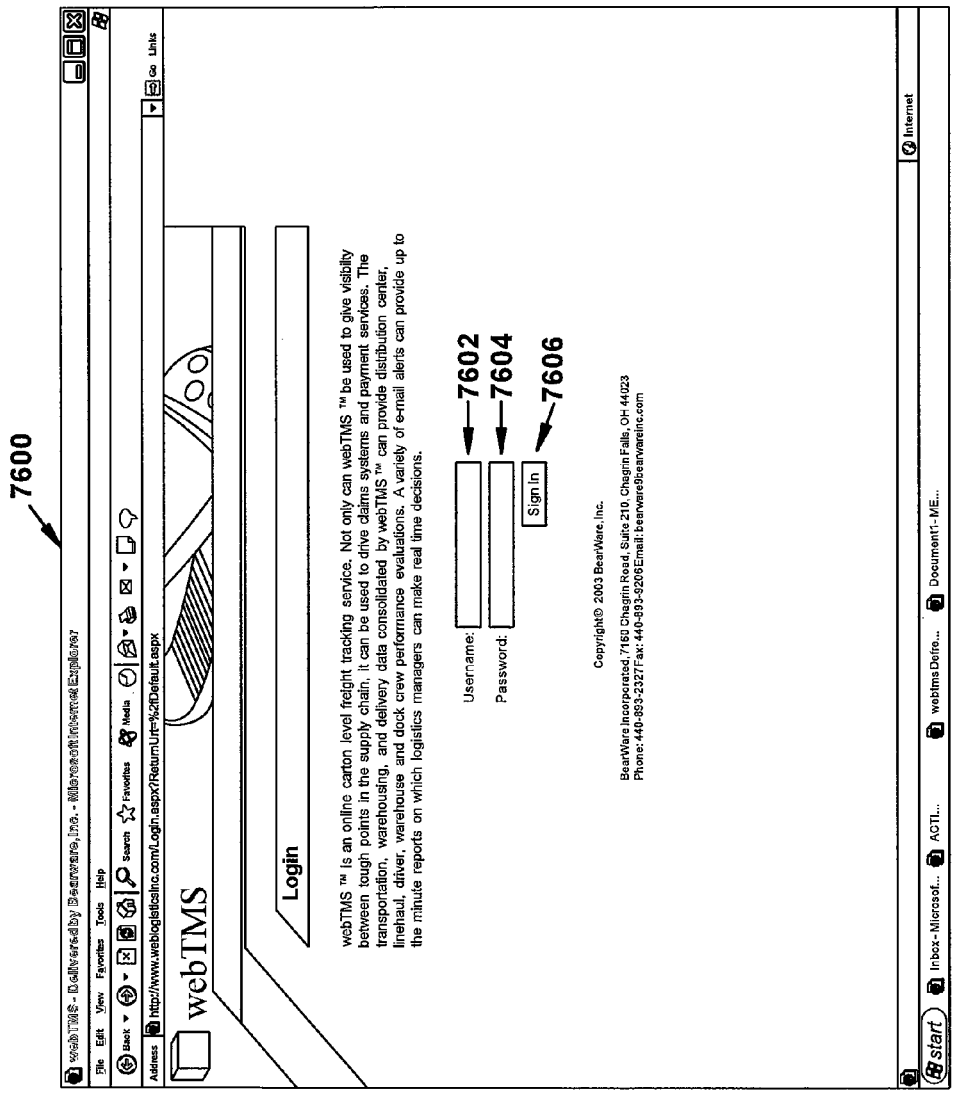

7600
webTMS - Delivered by Bearware, Inc. - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://www.weblogisticsinc.com/Login.aspx?ReturnUrl=%2fDefault.aspx
Links
webTMS
Login
webTMS ™ is an online carton level freight tracking service. Not only can webTMS ™ be used to give visibility between tough points in the supply chain, it can be used to drive claims systems and payment services. The transportation, warehousing, and delivery data consolidated by webTMS™ can provide distribution center, linehaul, driver, warehouse and dock crew performance evaluations. A variety of e-mail alerts can provide up to the minute reports on which logistics managers can make real time decisions.
Username:
Password:
Sign In
7602
7604
7606
Copyright© 2003 BearWare, Inc.
BearWare Incorporated,7160 Chagrin Road, Suite 210, Chagrin Falls, OH 44023
Phone:440-893-2327Fax: 440-893-9206Email:bearware@bearwareinc.com
start
Inbox - Microsof...
ACTI...
webtmsDefe...
Document1 - ME...
Internet

Figure 76

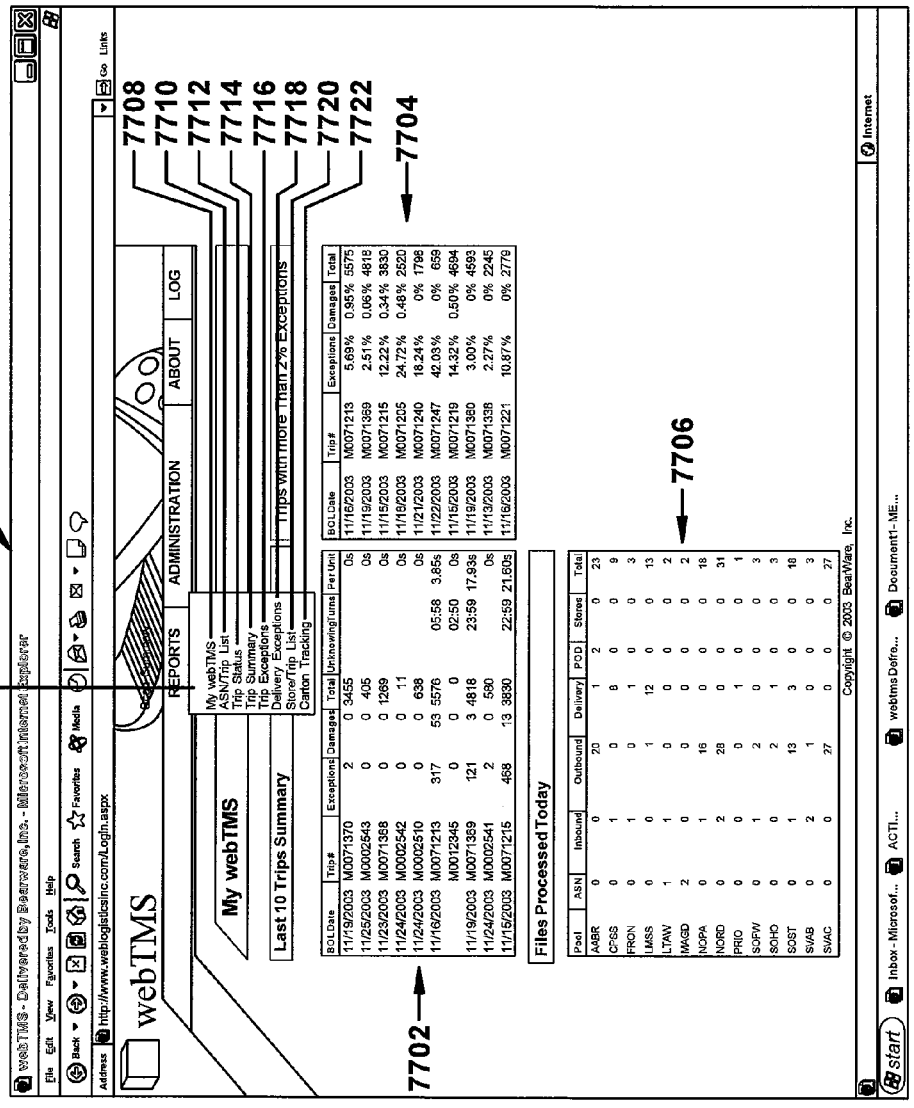

7700
7707
7708
7710
7712
7714
7716
7718
7720
7722
7704
7702
7706
webTMS - Delivered by Beamware, Inc. - Microsoft Internet Explorer
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
My webTMS
My webTMS
ASN/Trip List
Trip Status
Trip Summary
Trip Exceptions
Delivery Exceptions
Store/Trip List
Carton Tracking
Last 10 Trips Summary
Trips with more than 2% Exceptions
Files Processed Today
Copyright © 2003 BeamWare, Inc.

Figure 77

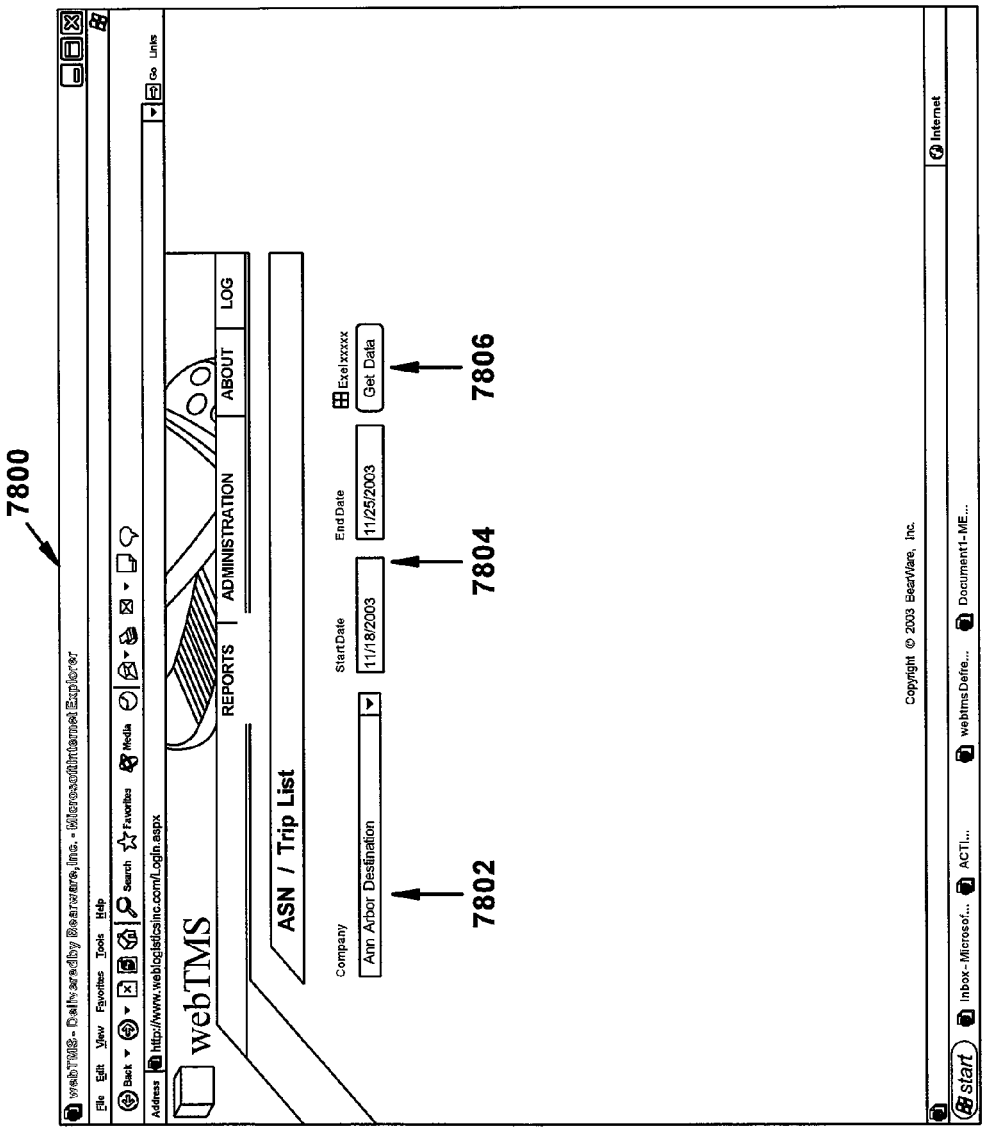

7800
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
ASN / Trip List
Company
Ann Arbor Destination
StartDate
11/18/2003
EndDate
11/25/2003
Exelxxxxx
Get Data
7802
7804
7806
Copyright © 2003 BearVate, Inc.
start
Inbox - Microsof...
ACTI...
webtmsDefe...
Document1-ME...
Internet

Figure 78

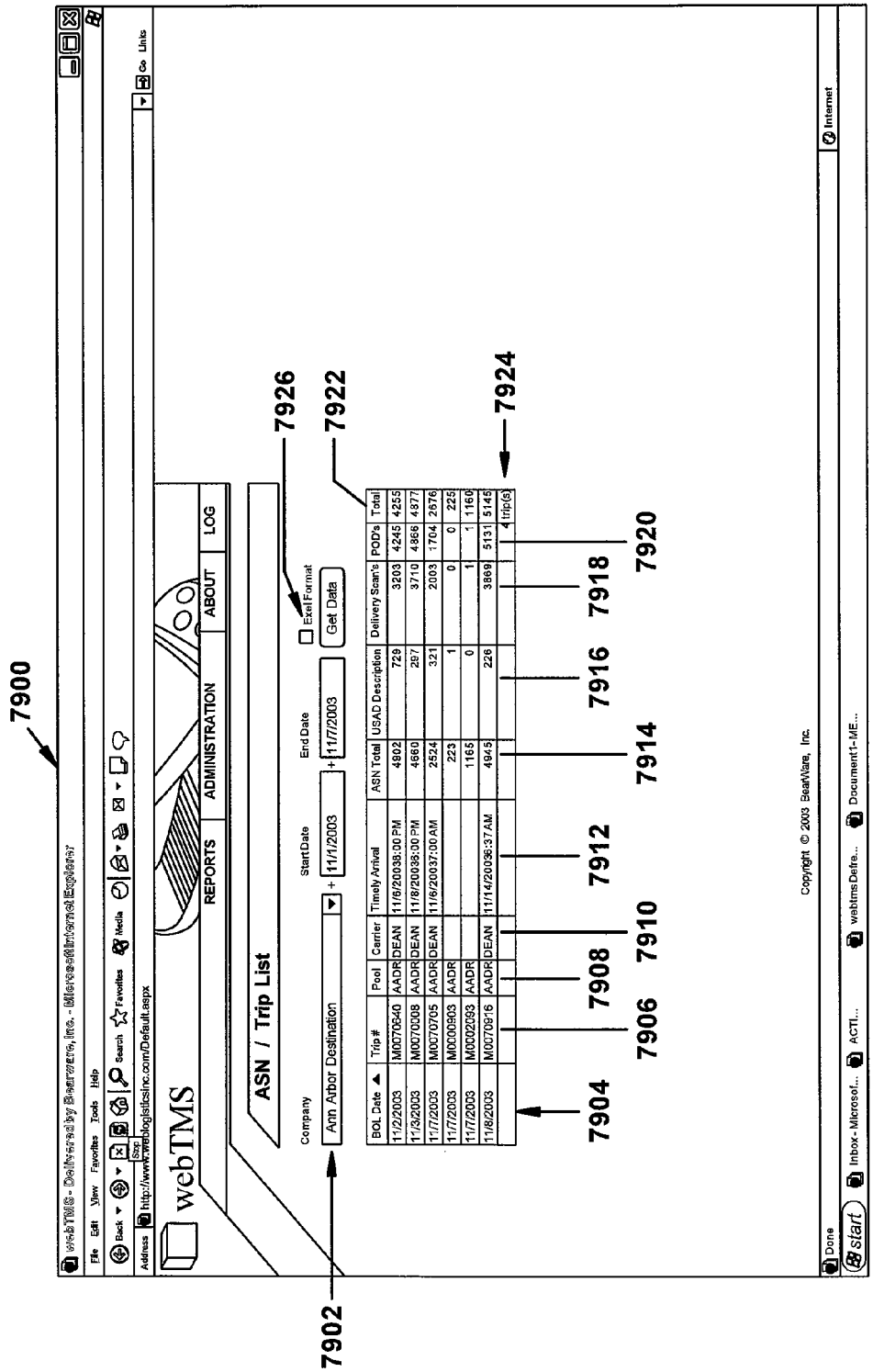

7900
7902
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
ASN / Trip List
Company
Ann Arbor Destination
StartDate
11/1/2003
End Date
11/7/2003
ExcelFormat
Get Data
7926
7922
7924
BOL Date
Trip #
Pool
Carrier
Timely Arrival
ASN Total
USAD Description
Delivery Scan's
POD's
Total
11/2/2003 M00706840 AADR DEAN 11/6/20038:00 PM 4802 729 3203 4245 4255
11/3/2003 M00706008 AADR DEAN 11/6/20038:00 PM 4660 287 3710 4866 4877
11/7/2003 M00706705 AADR DEAN 11/6/20037:00 AM 2524 321 2003 1704 2676
11/7/2003 M00606903 AADR 223 1 0 0 225
11/7/2003 M00602563 AADR 1165 0 1 1 1160
11/8/2003 M00706916 AADR DEAN 11/14/20036:37 AM 4945 226 3869 5131 5145
4 trip(s)
7904
7906
7908
7910
7912
7914
7916
7918
7920
Copyright © 2003 BeanWare, Inc.
Done
Internet
start
Inbox - Microsof...
ACTI...
webtmsDefre...
Document1 - ME...

Figure 79

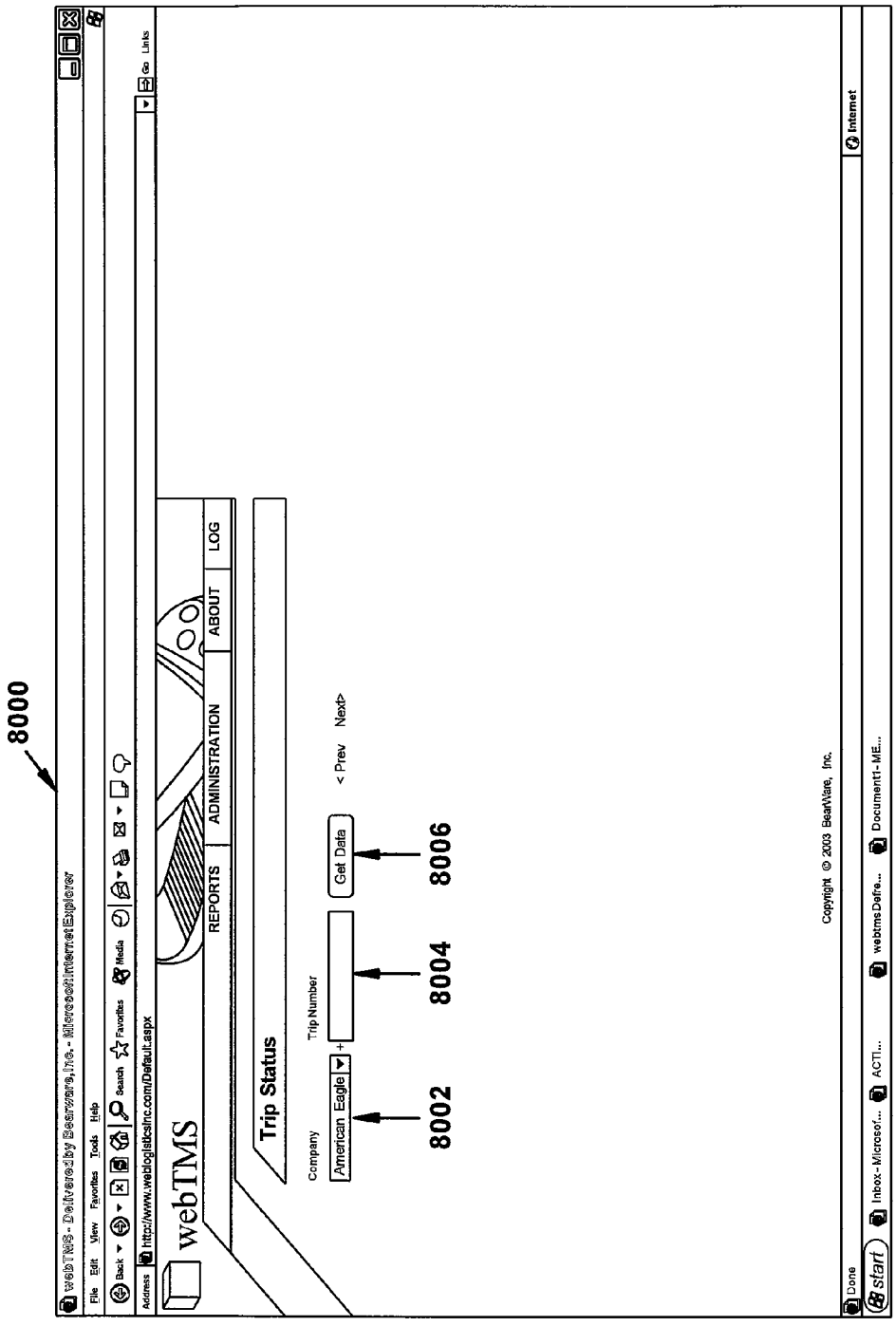

8000
webTMS - Delivered by Seemore, Inc. - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://www.webloglabsinc.com/Default.aspx
Links
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Trip Status
Company
American Eagle
Trip Number
Get Data
< Prev
Next>
8002
8004
8006
Copyright © 2003 BearWare, Inc.
Done
Internet
start
Inbox - Microsof...
ACTi...
webtmsDefe...
Document1 - ME...

Figure 80

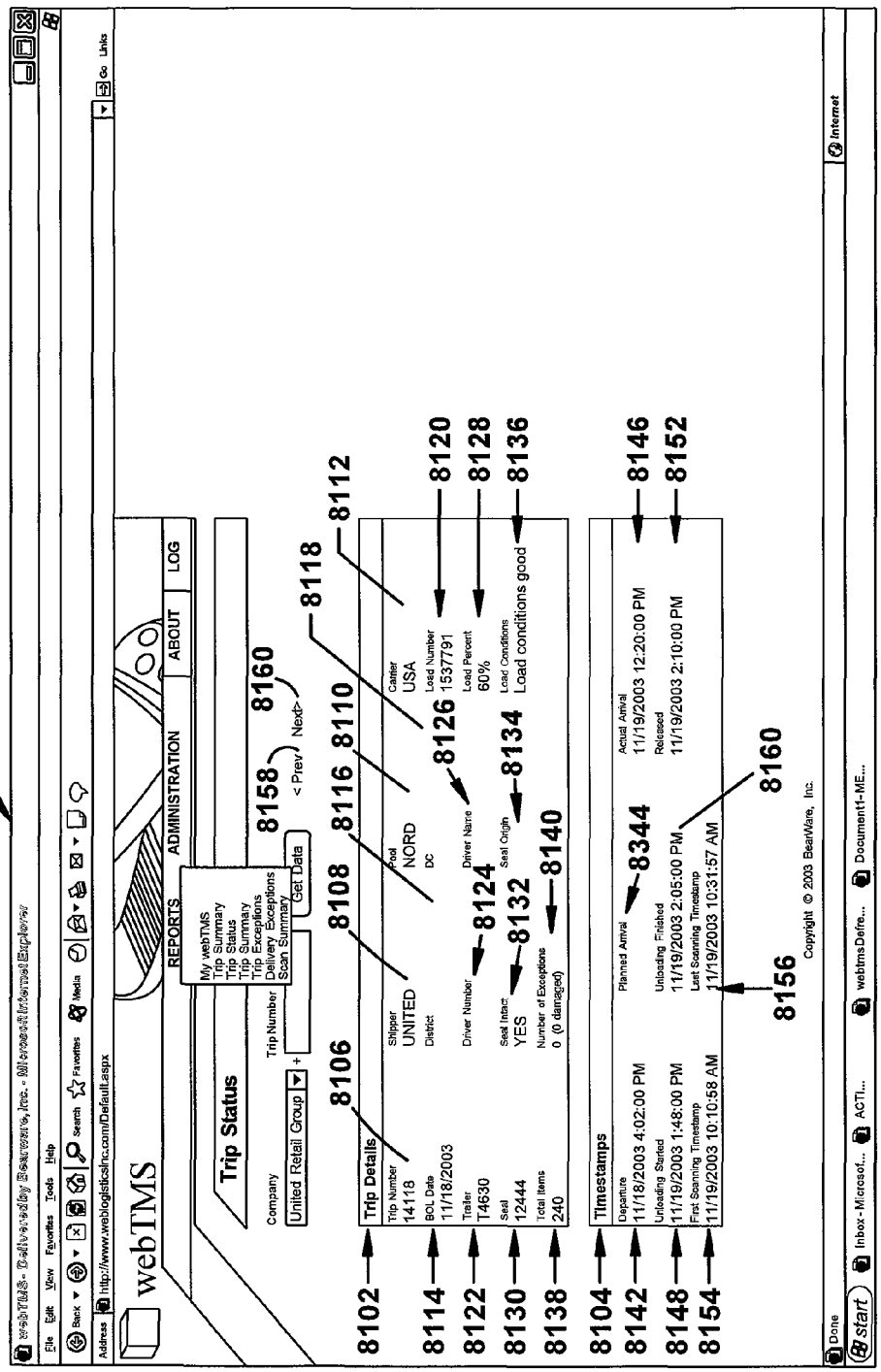

8100
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
My webTMS
Trip Summary
Trip Status
Trip Summary
Trip Exceptions
Delivery Exceptions
Scan Summary
Trip Status
Company
United Retail Group
Trip Number
Get Data
< Prev
Next>
8158
8160
8118
8112
8102
8106
8108
8116
8110
Trip Details
Trip Number
141118
BOL Date
11/18/2003
Trailer
T4630
Seal
12444
Total Items
240
Shipper
UNITED
Pool
NORD
District
DC
Carrier
USA
Lead Number
1537791
Load Percent
60%
Load Conditions
Load conditions good
8114
8122
8130
8138
8120
8128
8136
8126
8124
8132
8134
8140
Driver Name
Driver Number
Seal Intact
YES
Seal Origin
Number of Exceptions
0 (0 damaged)
8104
8142
8148
8154
8146
8152
8344
8156
8160
Timestamps
Departure
11/18/2003 4:02:00 PM
Unloading Started
11/19/2003 1:48:00 PM
First Scanning Timestamp
11/19/2003 10:10:58 AM
Planned Arrival
Unloading Finished
11/19/2003 2:05:00 PM
Last Scanning Timestamp
11/19/2003 10:31:57 AM
Actual Arrival
11/19/2003 12:20:00 PM
Released
11/19/2003 2:10:00 PM
Copyright © 2003 BearWare, Inc.
Done
Internet
start
Inbox - Microsof...
ACTI...
webtmsDefe...
Document1-ME...

Figure 81

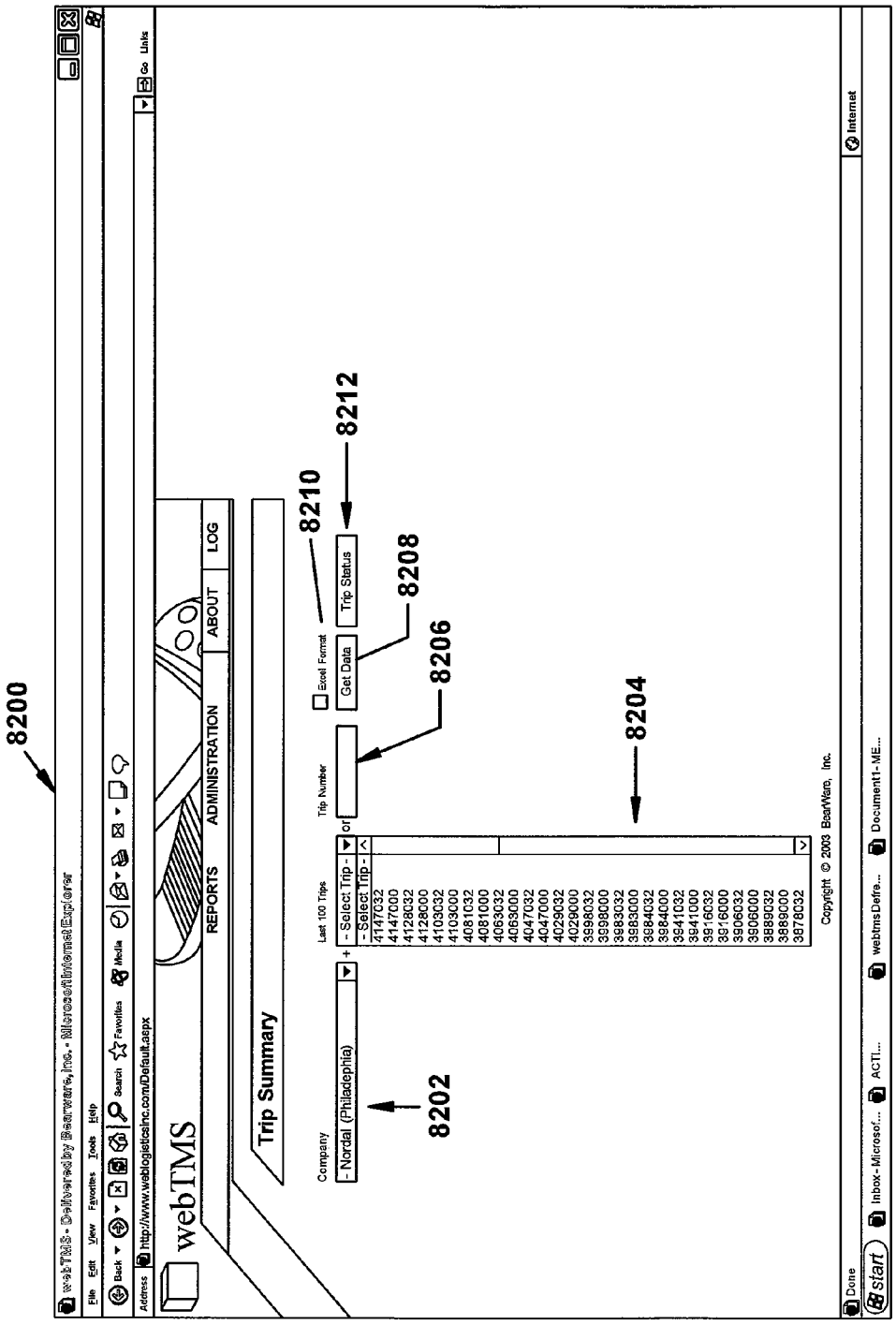

8200
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Trip Summary
Company
- Nordal (Philadephia)
8202
Last 100 Trips
- Select Trip -
Trip Number
or
Excel Format
Get Data
Trip Status
8210
8212
8208
8206
8204
Copyright © 2003 BearWare, Inc.

Figure 82

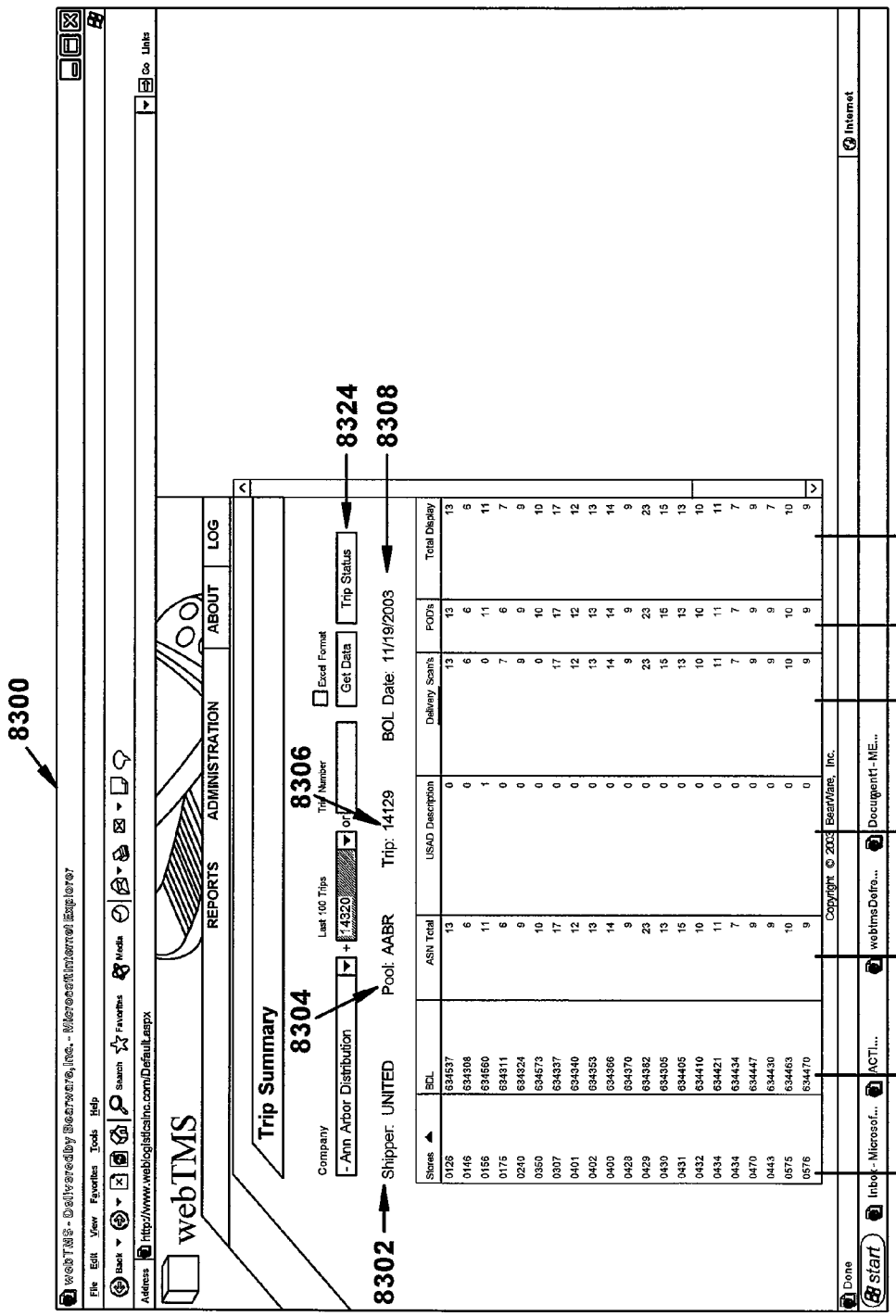

8300
webTMS - Delivered by Seamless, Inc. - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://www.weblogisticsinc.com/Default.aspx
webTMS
REPORTS ADMINISTRATION ABOUT LOG
Trip Summary
8304
8306
8324
8308
Company
- Ann Arbor Distribution
Last 100 Trips
14320
Trip Number
Excel Format
Get Data
Trip Status
8302
Shipper: UNITED
Pool: AABR
Trip: 14129
BOL Date: 11/19/2003
Stores
BOL
ASN Total
USAD Description
Delivery Scan's
PODs
Total Display
0126 634537 13 0 13 13 13
0146 634398 6 0 6 6 6
0156 634660 11 1 0 11 11
0175 634311 6 0 7 6 7
0240 634324 9 0 9 9 9
0350 634573 10 0 0 10 10
0307 634337 17 0 17 17 17
0401 634340 12 0 12 12 12
0402 634353 13 0 13 13 13
0400 634366 14 0 14 14 14
0428 634370 9 0 9 9 9
0429 634382 23 0 23 23 23
0430 634305 13 0 15 15 15
0431 634405 15 0 13 13 13
0432 634410 10 0 10 10 10
0434 634421 11 0 11 11 11
0434 634434 7 0 7 7 7
0470 634447 9 0 9 9 9
0443 634430 9 0 9 9 7
0575 634463 10 0 10 10 10
0576 634470 9 0 9 9 9
Copyright © 2003 BeamWare, Inc.
Done
Internet
start
Inbox - Microsof...
ACTI...
webtmsDefa...
Document1 - ME...
8310 8312 8314 8316 8318 8320 8322

Figure 83

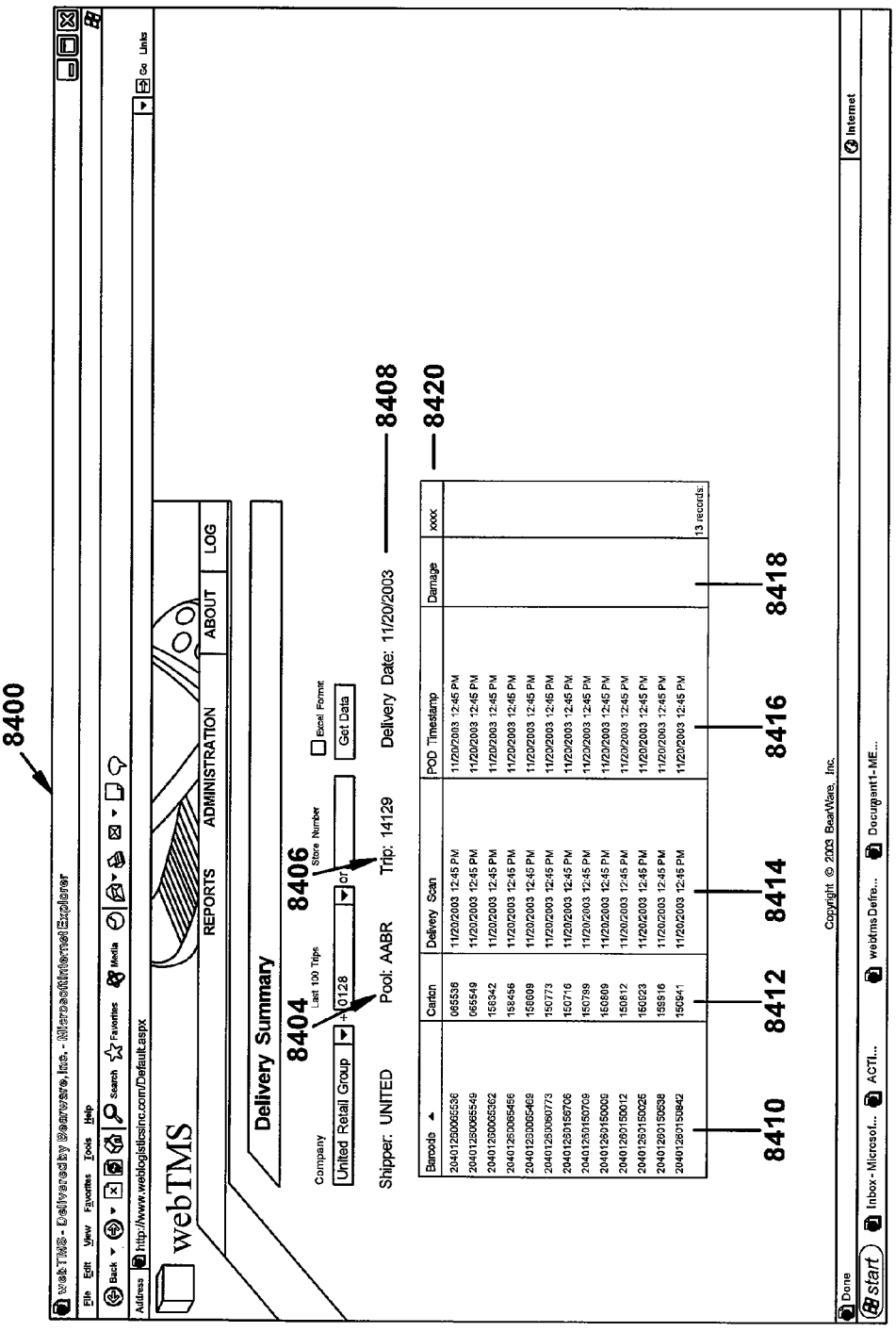

8400
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Delivery Summary
8404
8406
Company
Last 100 Trips
Store Number
Excel Format
United Retail Group
0128
or
Get Data
Shipper: UNITED
Pool: AABR
Trip: 14129
Delivery Date: 11/20/2003
8408
8420
Barcode
Carton
Delivery Scan
POD Timestamp
Damage
xxxx
13 records
8410
8412
8414
8416
8418
Copyright © 2003 BearWare, Inc.

Figure 84

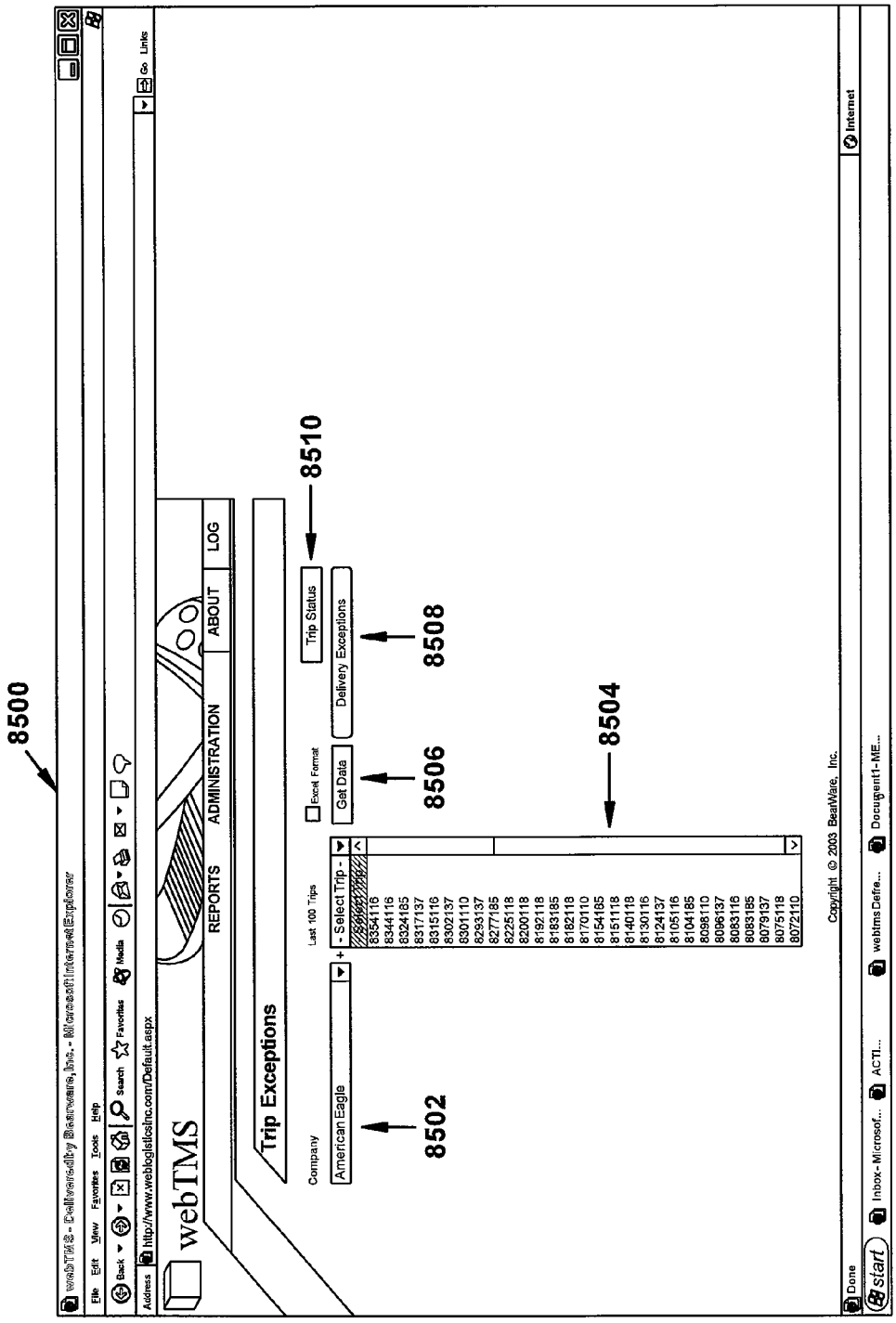

8500
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Trip Exceptions
Company
American Eagle
8502
Last 100 Trips
- Select Trip -
8354116
8344116
8324185
8317137
8315116
8302137
8301110
8293137
8277185
8225118
8200118
8192118
8183185
8182118
8170110
8154185
8151118
8140118
8130116
8124137
8105116
8104185
8098110
8096137
8083116
8083185
8079137
8075118
8072110
8504
Excel Format
Get Data
8506
Trip Status
Delivery Exceptions
8508
8510
Copyright © 2003 BeatWare, Inc.
Done
Internet

Figure 85

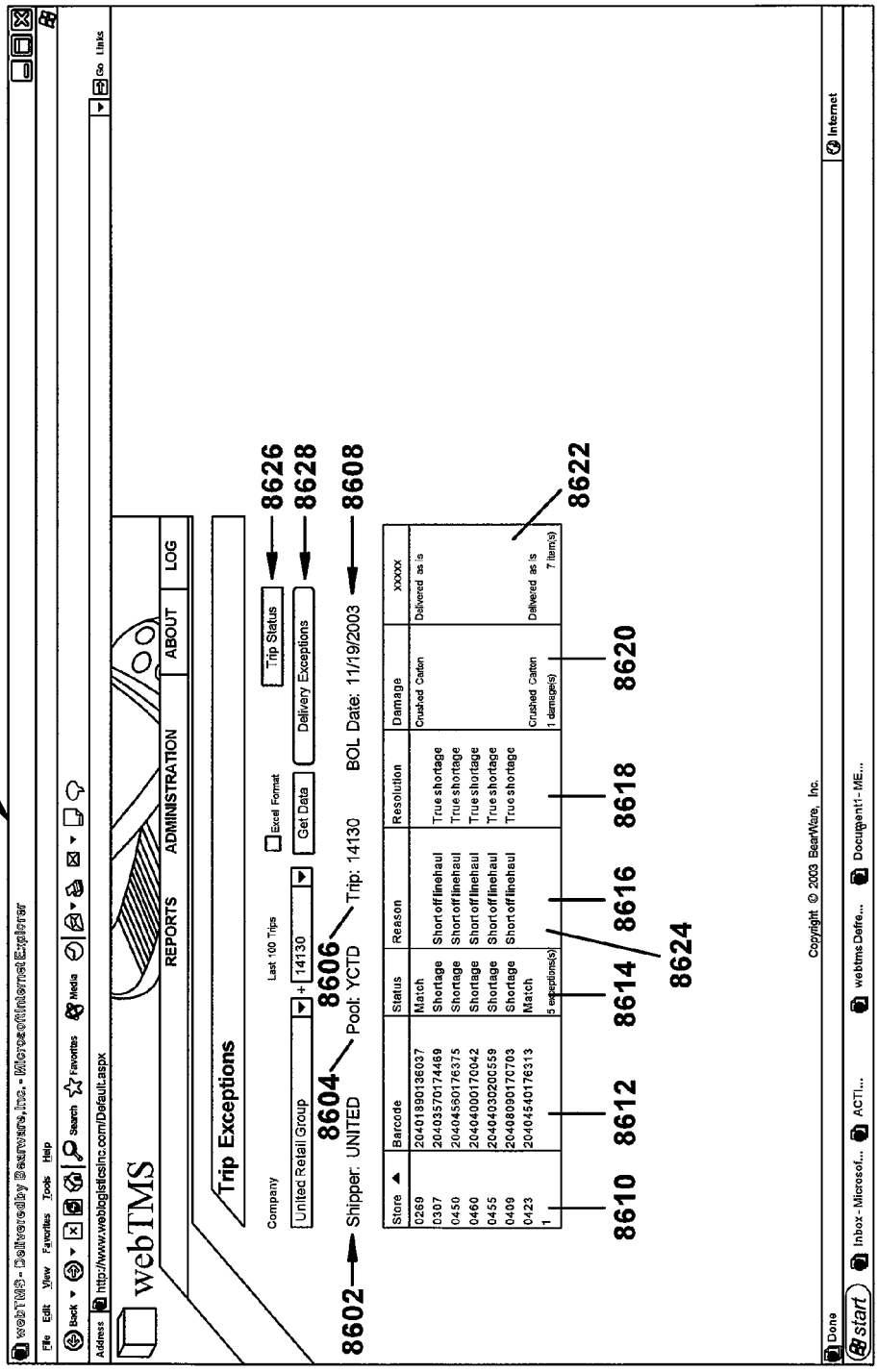

8600
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Trip Exceptions
Company
Last 100 Trips
Excel Format
Trip Status
United Retail Group
14130
Get Data
Delivery Exceptions
8602
Shipper: UNITED
8604
8606
Pool: YCTD
Trip: 14130
BOL Date: 11/19/2003
8608
8626
8628
Store
Barcode
Status
Reason
Resolution
Damage
xxxxx
0269 20401890136037 Match
0307 20403570174469 Shortage Shortoffinehaul True shortage
0450 20404580176375 Shortage Shortoffinehaul True shortage
0460 20404000170042 Shortage Shortoffinehaul True shortage
0455 20404030200559 Shortage Shortoffinehaul True shortage
0409 20408090170703 Shortage Shortoffinehaul True shortage
0423 20404540176313 Match
5 exceptions(s)
Crushed Carton
1 damage(s)
Delivered as is
7 item(s)
8622
8610
8612
8614
8616
8618
8620
8624
Copyright © 2003 BearWare, Inc.

Figure 86

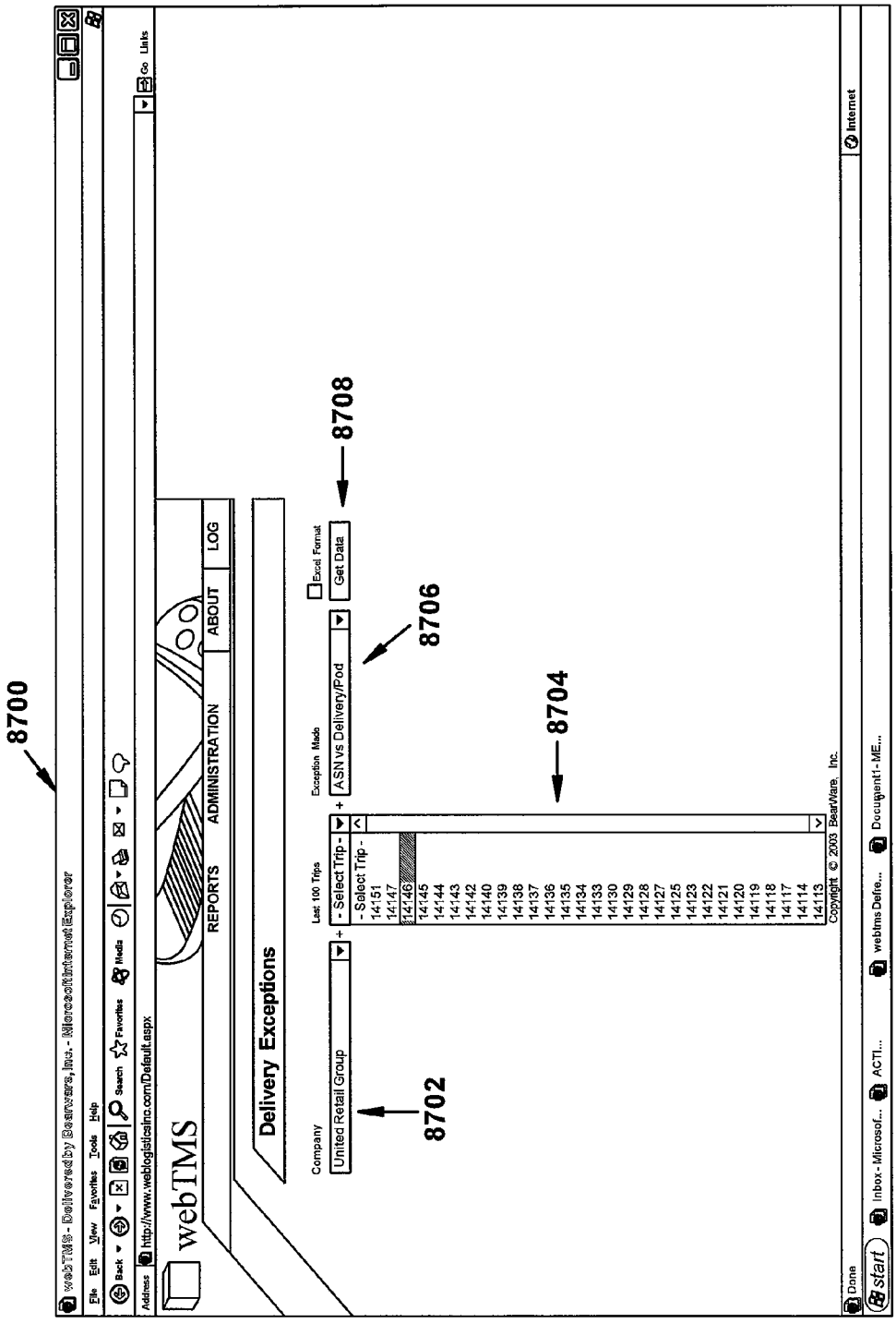

8700
webTMS - Delivered by Bearware, Inc. - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://www.weblogisticsinc.com/Default.aspx
webTMS
REPORTS ADMINISTRATION ABOUT LOG
Delivery Exceptions
Company
United Retail Group
8702
Last 100 Trips
- Select Trip -
14151
14147
14146
14145
14144
14143
14142
14140
14139
14138
14137
14136
14135
14134
14133
14130
14129
14128
14127
14125
14123
14122
14121
14120
14119
14118
14117
14114
14113
8704
Exception Made
ASN vs Delivery/Pod
8706
Excel Format
Get Data
8708
Copyright © 2003 BearWare, Inc.
Done
Internet
start
Inbox - Microsof...
ACTI...
webtmsDefe...
Docugient! - ME...

Figure 87

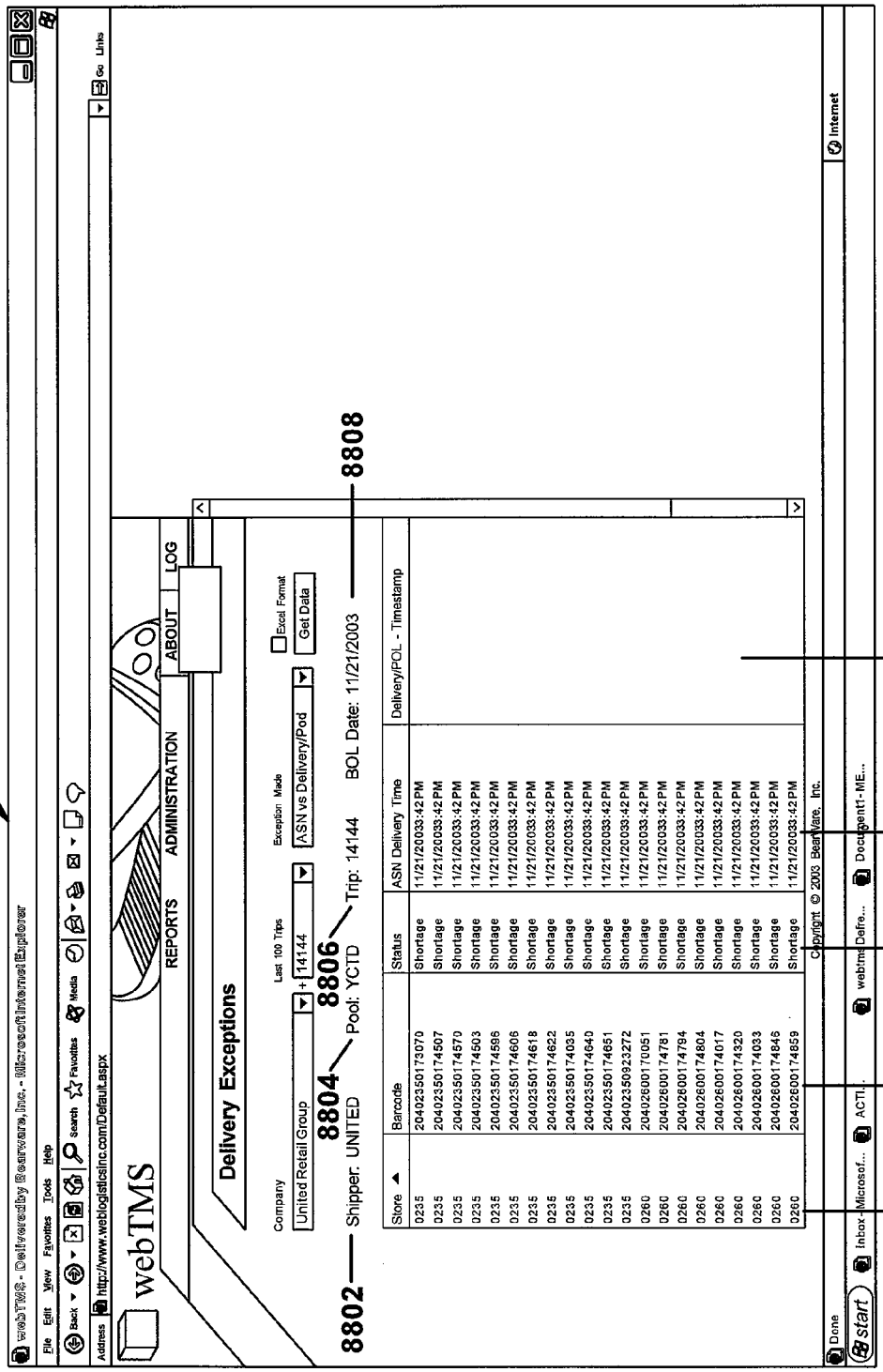

8800
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Delivery Exceptions
Company
United Retail Group
Last 100 Trips
14144
Exception Mode
ASN vs Delivery/Pod
Excel Format
Get Data
8802
Shipper: UNITED
8804
Pool: YCTD
8806
Trip: 14144
BOL Date: 11/21/2003
8808
Store
Barcode
Status
ASN Delivery Time
Delivery/POL - Timestamp
0235 20402350173070 Shortage 11/21/20033:42PM
0235 20402350174507 Shortage 11/21/20033:42PM
0235 20402350174570 Shortage 11/21/20033:42PM
0235 20402350174603 Shortage 11/21/20033:42PM
0235 20402350174596 Shortage 11/21/20033:42PM
0235 20402350174606 Shortage 11/21/20033:42PM
0235 20402350174618 Shortage 11/21/20033:42PM
0235 20402350174622 Shortage 11/21/20033:42PM
0235 20402350174035 Shortage 11/21/20033:42PM
0235 20402350174640 Shortage 11/21/20033:42PM
0235 20402350174651 Shortage 11/21/20033:42PM
0235 20402350923272 Shortage 11/21/20033:42PM
0260 20402600170051 Shortage 11/21/20033:42PM
0260 20402600174781 Shortage 11/21/20033:42PM
0260 20402600174784 Shortage 11/21/20033:42PM
0260 20402600174804 Shortage 11/21/20033:42PM
0260 20402600174017 Shortage 11/21/20033:42PM
0260 20402600174320 Shortage 11/21/20033:42PM
0260 20402600174033 Shortage 11/21/20033:42PM
0260 20402600174846 Shortage 11/21/20033:42PM
0260 20402600174859 Shortage 11/21/20033:42PM
Copyright © 2003 BearWare, Inc.
8810
8812
8814
8816
8818
Done
Internet
start
Inbox - Microsof...
ACTI...
webtms Defre...
Document1 - ME...

Figure 88

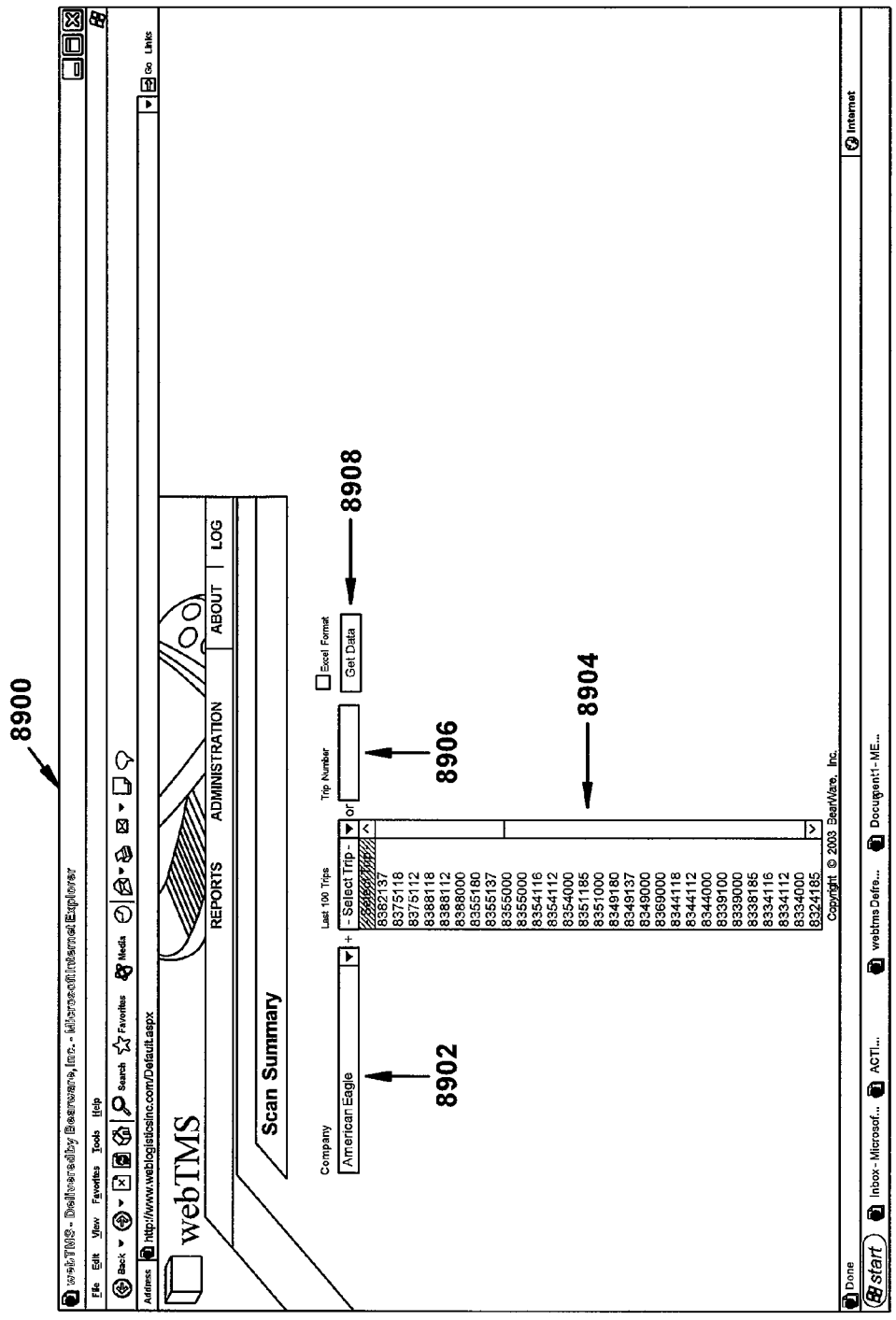

8900
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Scan Summary
Company
American Eagle
8902
Last 100 Trips
Select Trip -
8382137
8375118
8375112
8388118
8388112
8388000
8355180
8355137
8355000
8355000
8354116
8354112
8354000
8351185
8351000
8349180
8349137
8349000
8369000
8344118
8344112
8344000
8339100
8339000
8338185
8334116
8334112
8334000
8324185
8904
Trip Number
or
8906
Excel Format
Get Data
8908
Copyright © 2003 BearWare, Inc.
Done
Internet

Figure 89

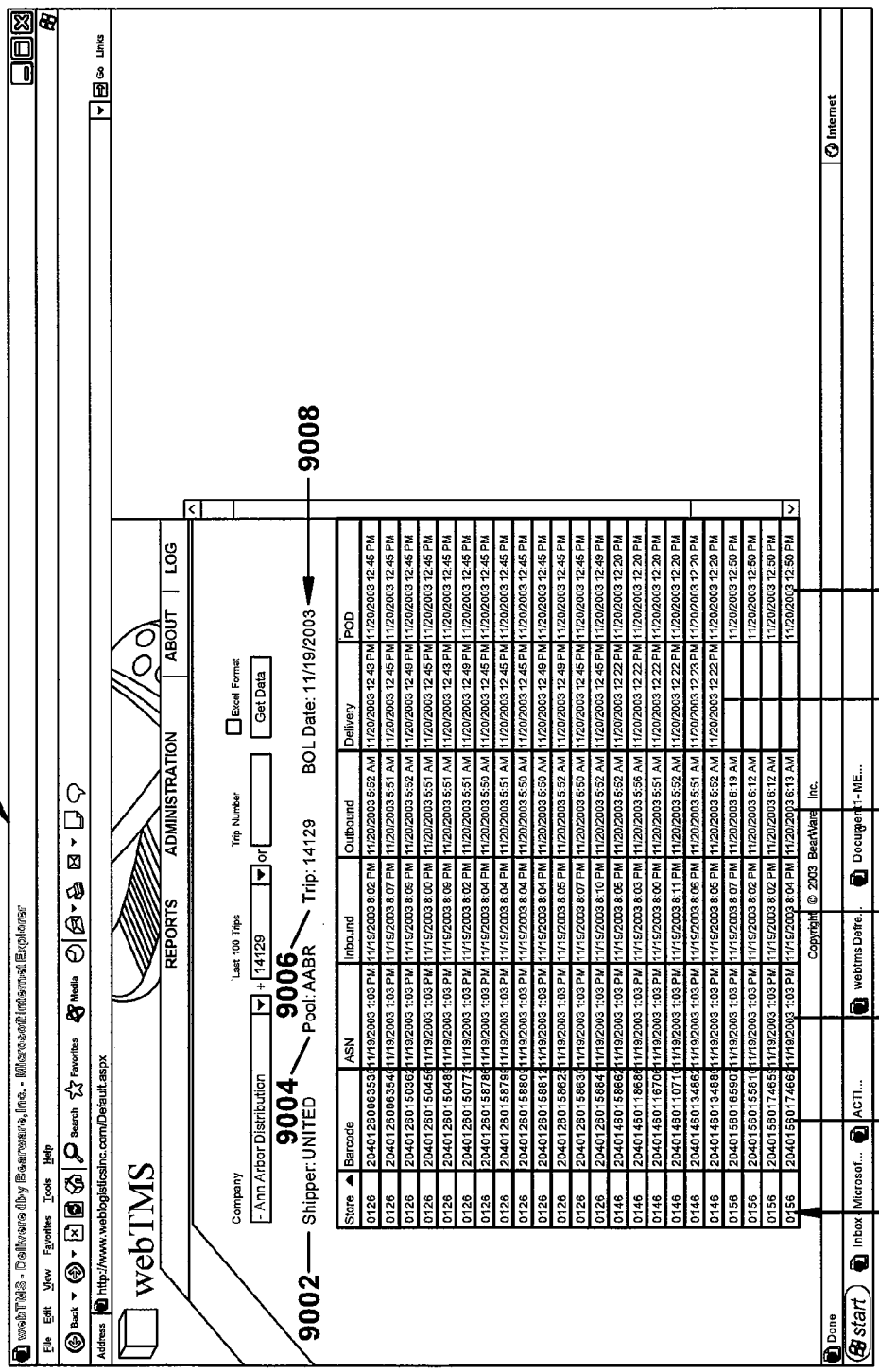

9000
webTMS - Delivered by Beartware, Inc. - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://www.weblogisticsinc.com/Default.aspx
webTMS
REPORTS ADMINISTRATION ABOUT LOG
Company
- Ann Arbor Distribution
Last 100 Trips
Trip Number
14129
or
Excel Format
Get Data
9004
9006
9008
9002 Shipper: UNITED
Pool: AABR
Trip: 14129
BOL Date: 11/19/2003
Store
Barcode
ASN
Inbound
Outbound
Delivery
POD
0126
0146
0156
Copyright © 2003 BearWare Inc.
Done
Internet
start
Inbox - Microsof...
ACTI...
webtms.defre...
Document1 - ME...
9010 9012 9014 9016 9018 9020 9022

Figure 90

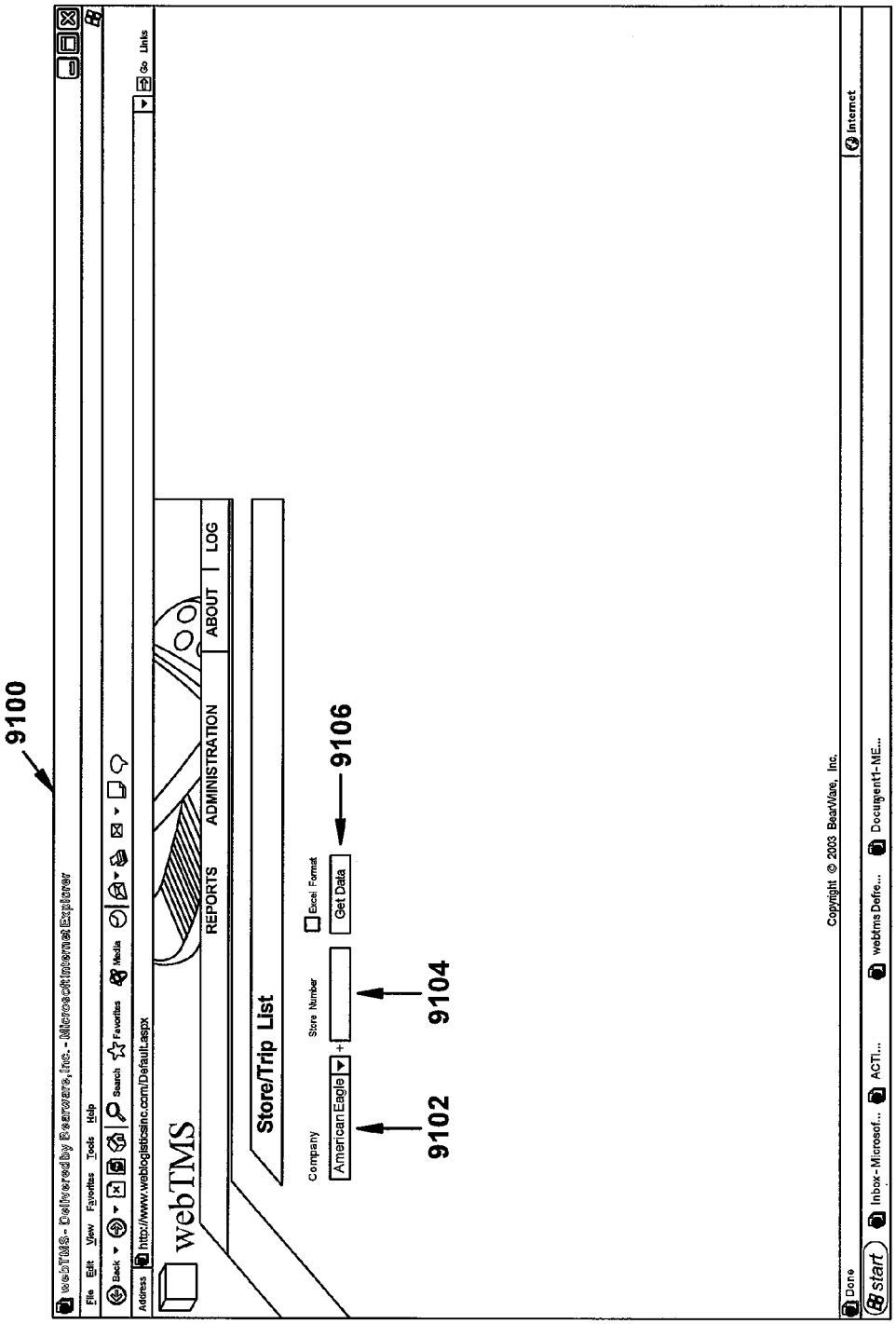

9100
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Store/Trip List
Company
American Eagle
Store Number
Excel Format
Get Data
9102
9104
9106
Copyright © 2003 BearWare, Inc.

Figure 91

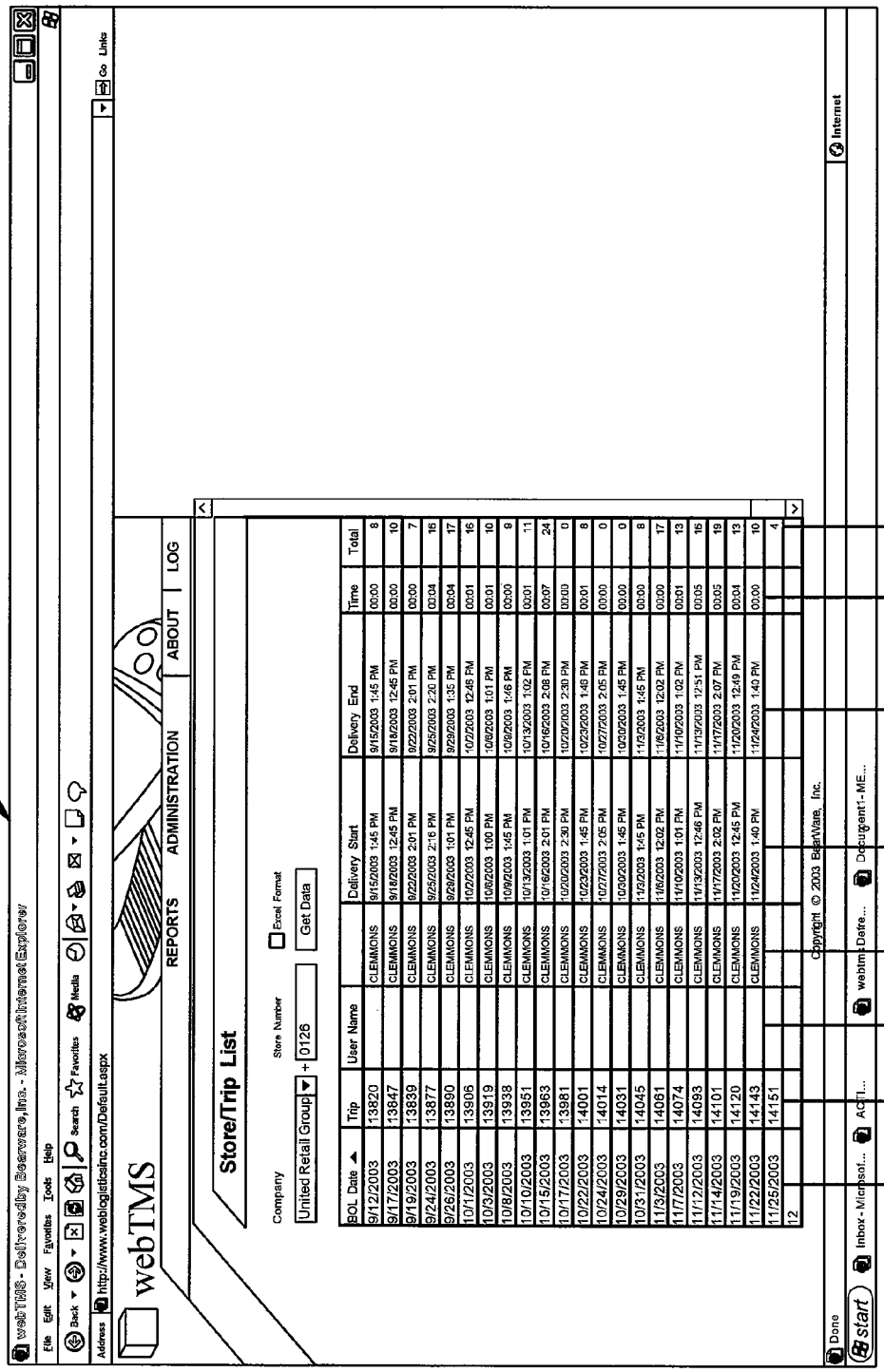

9200
webTMS - Delivered by Beanware, Inc. - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://www.weblogisticsinc.com/Default.aspx
webTMS
REPORTS ADMINISTRATION ABOUT LOG
Store/Trip List
Company
Store Number
Excel Format
United Retail Group
0126
Get Data
BOL Date | Trip | User Name | | Delivery Start | Delivery End | Time | Total
9/12/2003 | 13820 | | CLEMMONS | 9/15/2003 1:45 PM | 9/15/2003 1:45 PM | 00:00 | 8
9/17/2003 | 13847 | | CLEMMONS | 9/18/2003 12:45 PM | 9/18/2003 12:45 PM | 00:00 | 10
9/19/2003 | 13839 | | CLEMMONS | 9/22/2003 2:01 PM | 9/22/2003 2:01 PM | 00:00 | 7
9/24/2003 | 13877 | | CLEMMONS | 9/25/2003 2:16 PM | 9/25/2003 2:20 PM | 00:04 | 16
9/26/2003 | 13890 | | CLEMMONS | 9/26/2003 1:01 PM | 9/26/2003 1:35 PM | 00:04 | 17
10/1/2003 | 13906 | | CLEMMONS | 10/2/2003 12:45 PM | 10/2/2003 12:46 PM | 00:01 | 16
10/3/2003 | 13919 | | CLEMMONS | 10/6/2003 1:00 PM | 10/6/2003 1:01 PM | 00:01 | 10
10/8/2003 | 13938 | | CLEMMONS | 10/9/2003 1:45 PM | 10/9/2003 1:46 PM | 00:00 | 9
10/10/2003 | 13951 | | CLEMMONS | 10/13/2003 1:01 PM | 10/13/2003 1:02 PM | 00:01 | 11
10/15/2003 | 13963 | | CLEMMONS | 10/16/2003 2:01 PM | 10/16/2003 2:08 PM | 00:07 | 24
10/17/2003 | 13981 | | CLEMMONS | 10/20/2003 2:30 PM | 10/20/2003 2:30 PM | 00:00 | 0
10/22/2003 | 14001 | | CLEMMONS | 10/23/2003 1:45 PM | 10/23/2003 1:46 PM | 00:01 | 8
10/24/2003 | 14014 | | CLEMMONS | 10/27/2003 2:05 PM | 10/27/2003 2:05 PM | 00:00 | 0
10/29/2003 | 14031 | | CLEMMONS | 10/30/2003 1:45 PM | 10/30/2003 1:45 PM | 00:00 | 0
10/31/2003 | 14045 | | CLEMMONS | 11/3/2003 1:45 PM | 11/3/2003 1:45 PM | 00:00 | 8
11/3/2003 | 14061 | | CLEMMONS | 11/6/2003 12:02 PM | 11/6/2003 12:02 PM | 00:00 | 17
11/7/2003 | 14074 | | CLEMMONS | 11/10/2003 1:01 PM | 11/10/2003 1:02 PM | 00:01 | 13
11/12/2003 | 14093 | | CLEMMONS | 11/13/2003 12:46 PM | 11/13/2003 12:51 PM | 00:05 | 16
11/14/2003 | 14101 | | CLEMMONS | 11/17/2003 2:02 PM | 11/17/2003 2:07 PM | 00:05 | 19
11/19/2003 | 14120 | | CLEMMONS | 11/20/2003 12:45 PM | 11/20/2003 12:49 PM | 00:04 | 13
11/22/2003 | 14143 | | CLEMMONS | 11/24/2003 1:40 PM | 11/24/2003 1:40 PM | 00:00 | 10
11/25/2003 | 14151 | | | | | | 4
12
Copyright © 2003 BeanWare, Inc.
Done
Internet
start
Inbox - Microsof...
ACTI...
webtms Defre...
Debugger1 - ME...
9202
9204
9206
9208
9210
9212
9214
9216

Figure 92

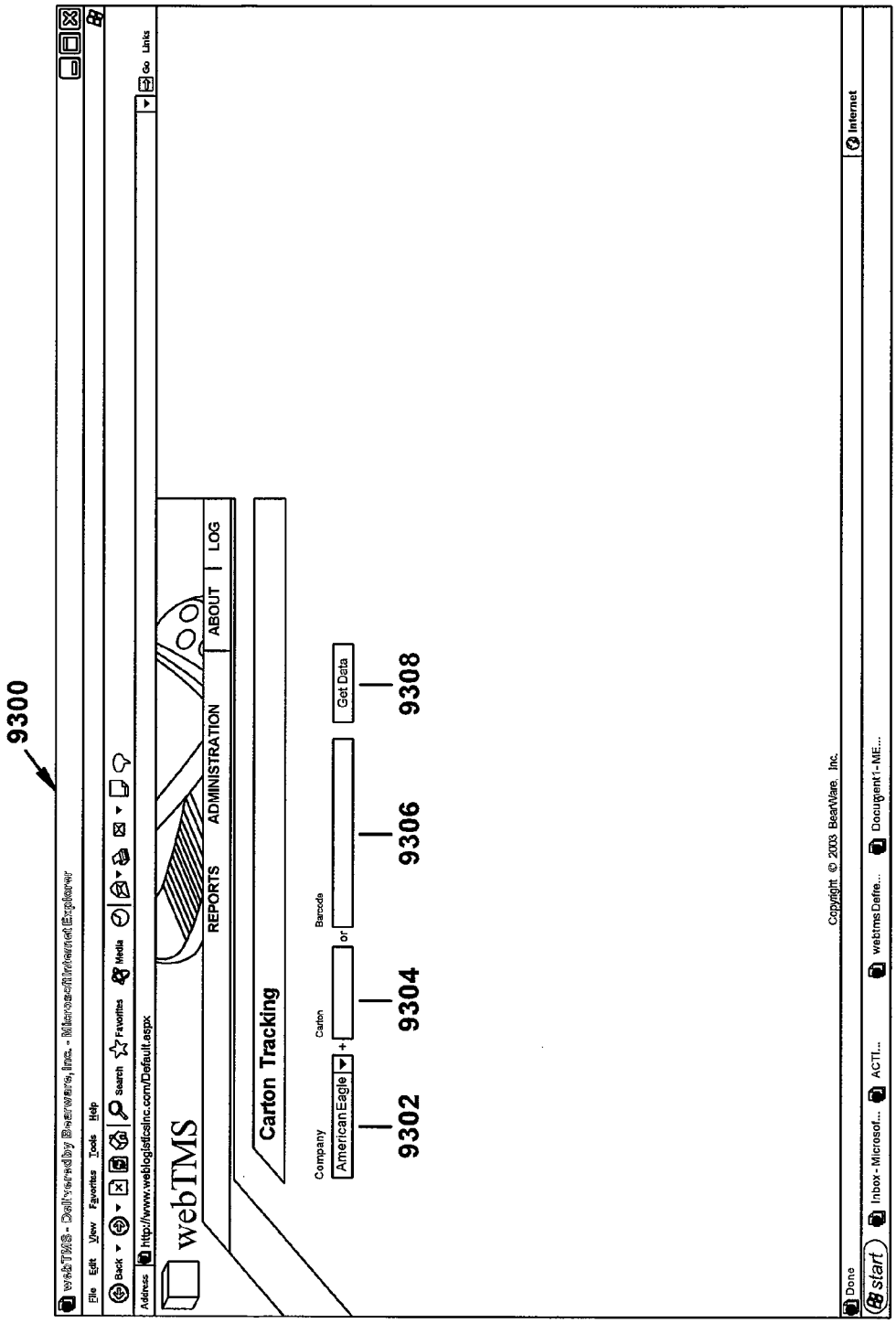

9300
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Carton Tracking
Company
American Eagle
Carton
or
Barcode
Get Data
9302
9304
9306
9308
Copyright © 2003 BearWare, Inc.
Done
Internet
start
Inbox - Microsof...
ACTI...
webtmsDefe...
Document1 - ME...

Figure 93

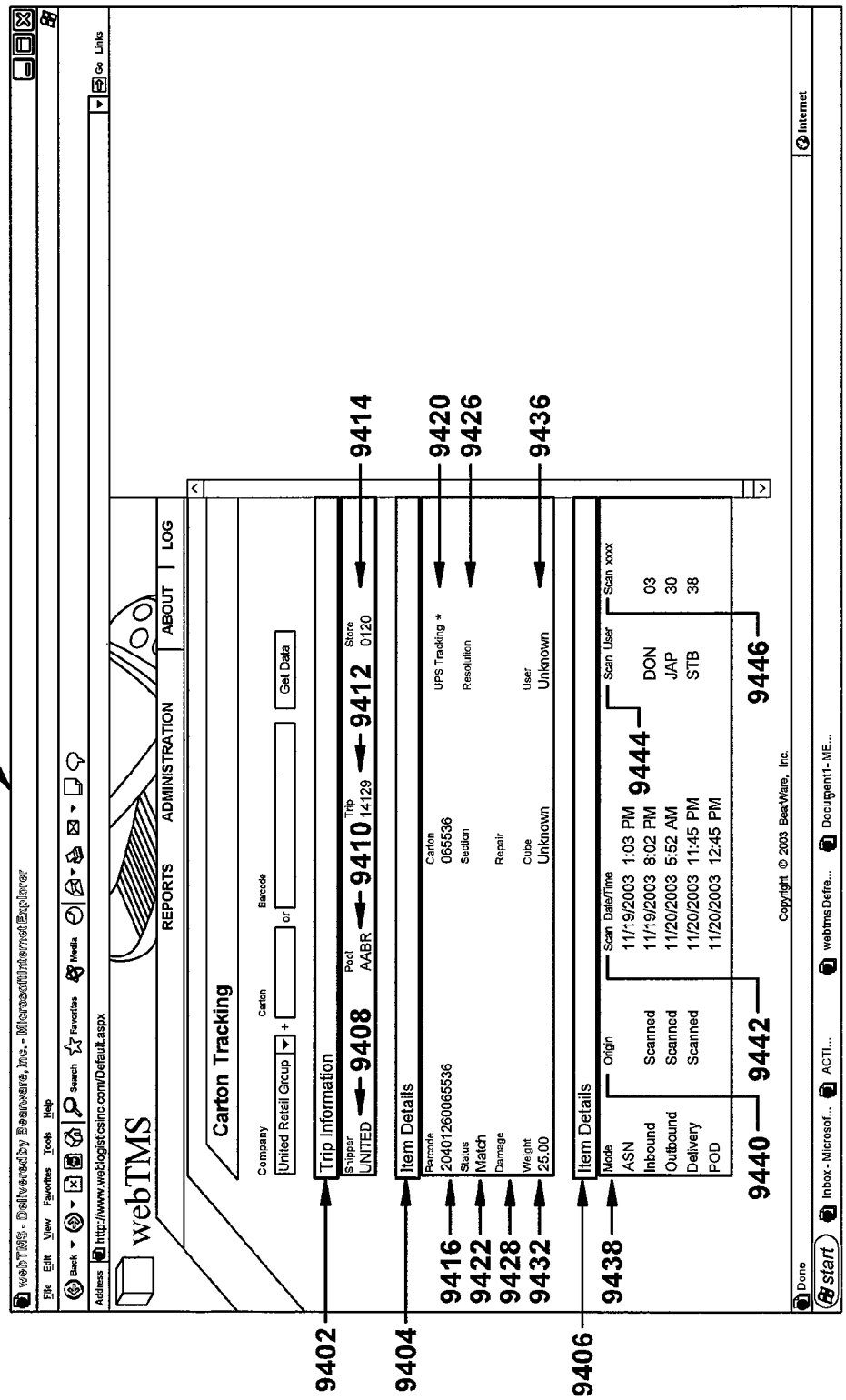

9400
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Carton Tracking
Company
Carton
Barcode
United Retail Group
or
Get Data
Trip Information
Shipper
UNITED
9408
Pool
AABR
9410
Trip
14129
9412
Store
0120
9414
Item Details
Barcode
20401260065536
Carton
065536
UPS Tracking #
9420
Status
Match
Section
Resolution
9426
Damage
Repair
Weight
25.00
Cube
Unknown
User
Unknown
9436
Item Details
Mode
Origin
Scan Date/Time
Scan User
Scan xxxx
ASN
Inbound
Outbound
Delivery
POD
Scanned
Scanned
Scanned
11/19/2003 1:03 PM
11/19/2003 8:02 PM
11/20/2003 5:52 AM
11/20/2003 11:45 PM
11/20/2003 12:45 PM
9444
DON
JAP
STB
03
30
38
9446
9440
9442
Copyright © 2003 BeerWare, Inc.
9402
9404
9406
9416
9422
9428
9432
9438

Figure 94

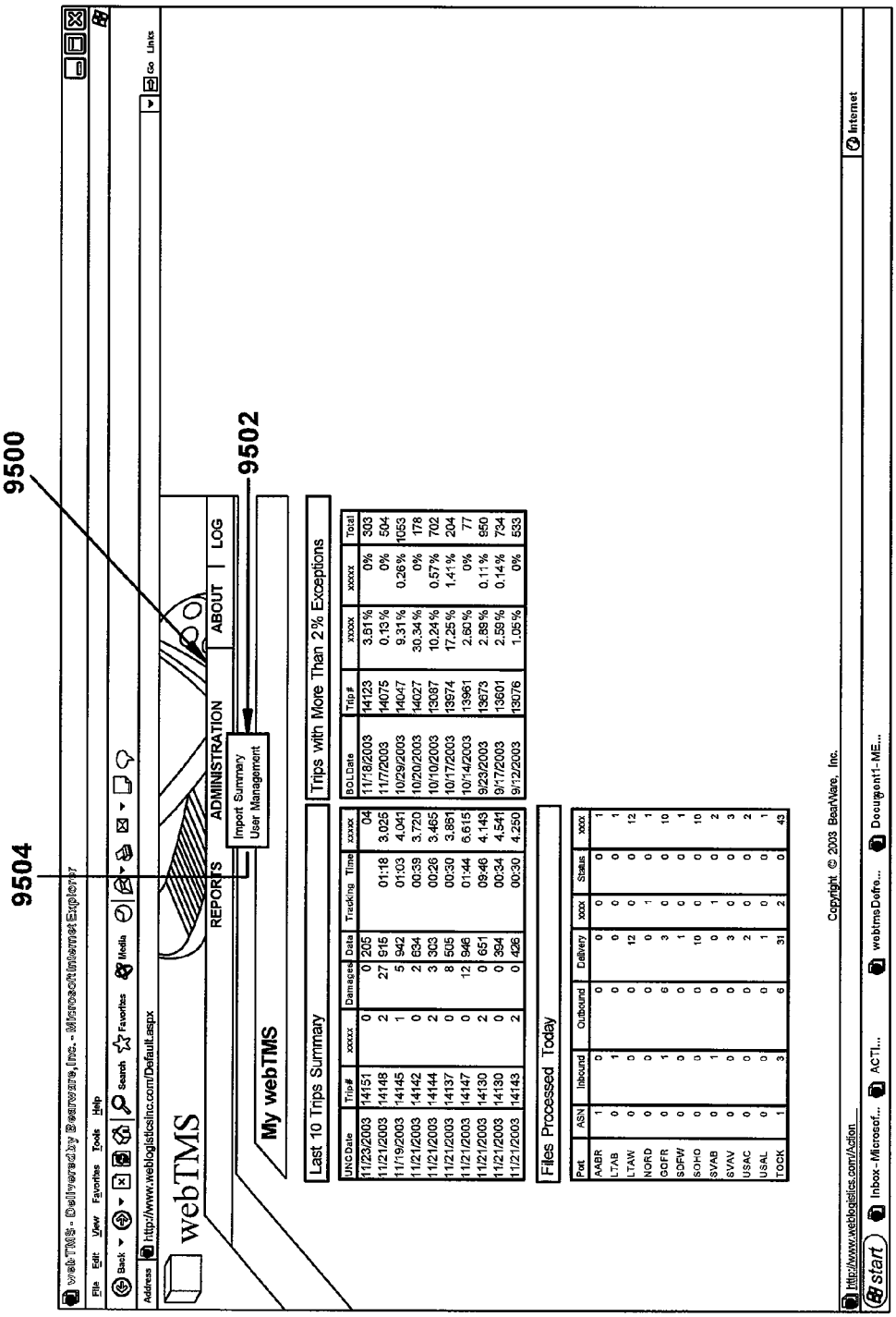

9500
9502
9504
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Import Summary
User Management
My webTMS
Last 10 Trips Summary
Trips with More Than 2% Exceptions
Files Processed Today
Copyright © 2003 BearWare, Inc.

Figure 95

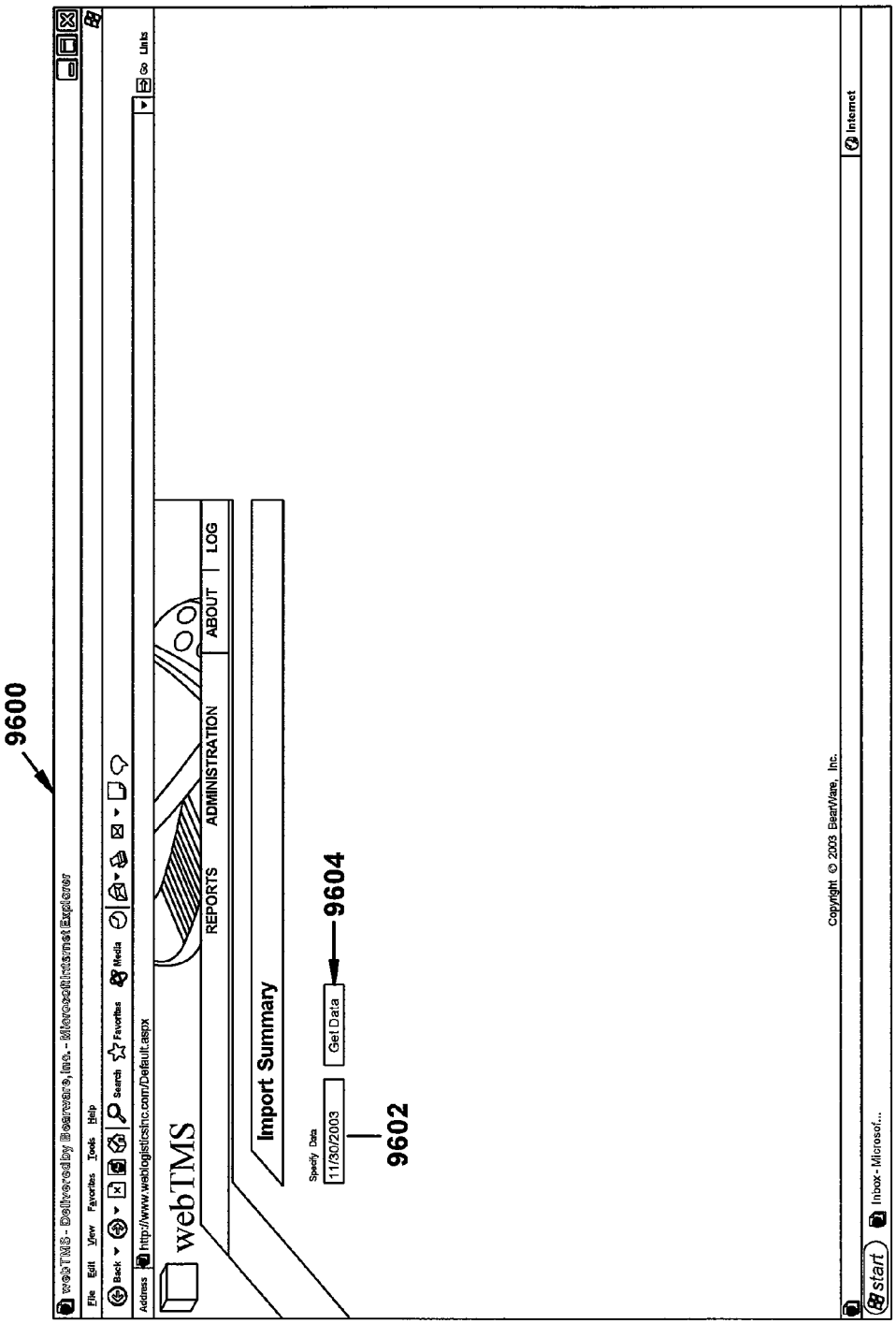

9600
webTMS - Delivered by Bearware, Inc. - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://www.weblogisticsinc.com/Default.aspx
Links
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Import Summary
Specify Date
11/30/2003
Get Data
9602
9604
Copyright © 2003 BearWare, Inc.
start
Inbox - Microsof...
Internet

Figure 96

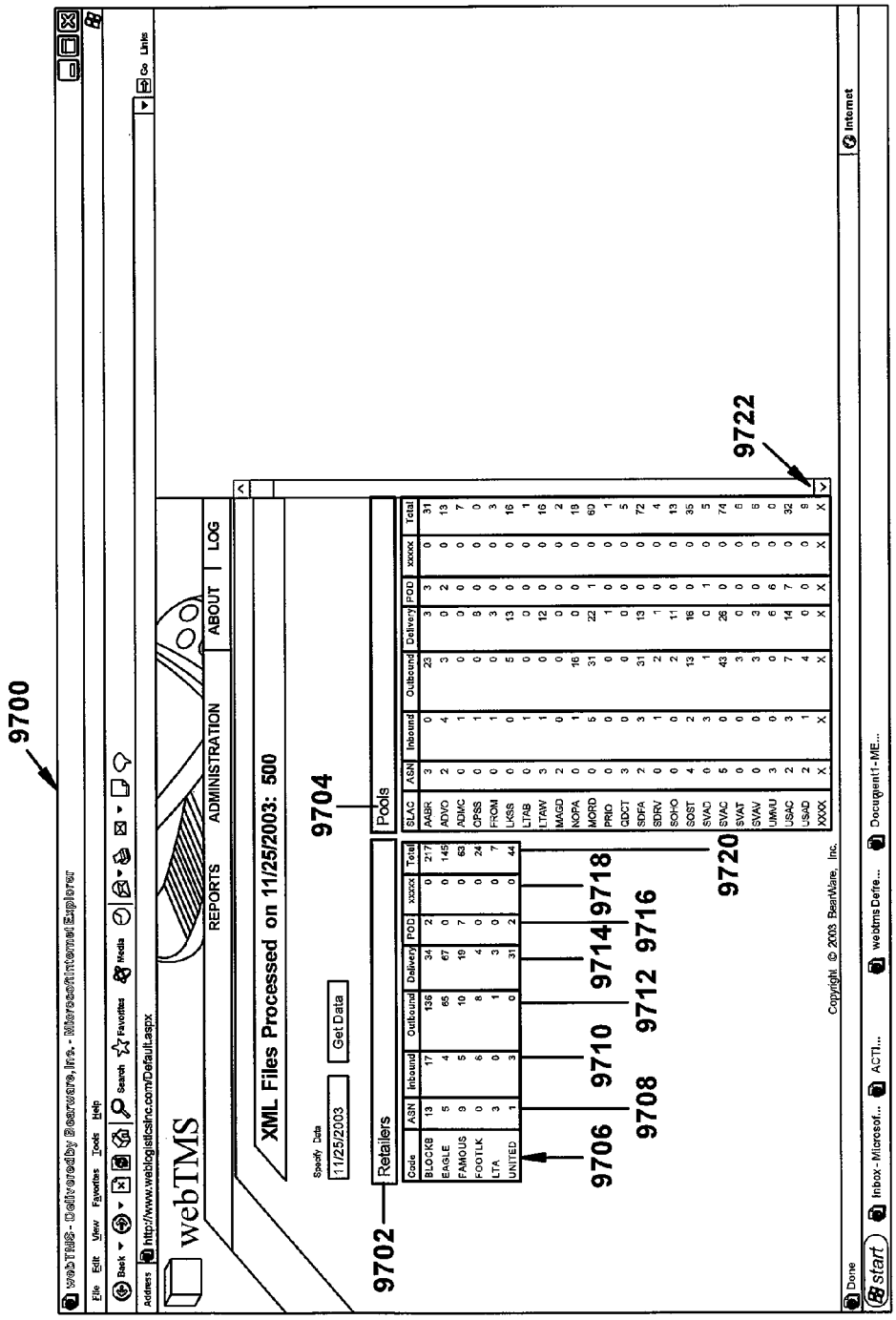

9700
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
XML Files Processed on 11/25/2003: 500
Specify Data
11/25/2003
Get Data
9704
Pools
9702
Retailers
9706
9710
9708
9712
9714
9718
9716
9720
9722
Copyright © 2003 BearWare, Inc.

Figure 97

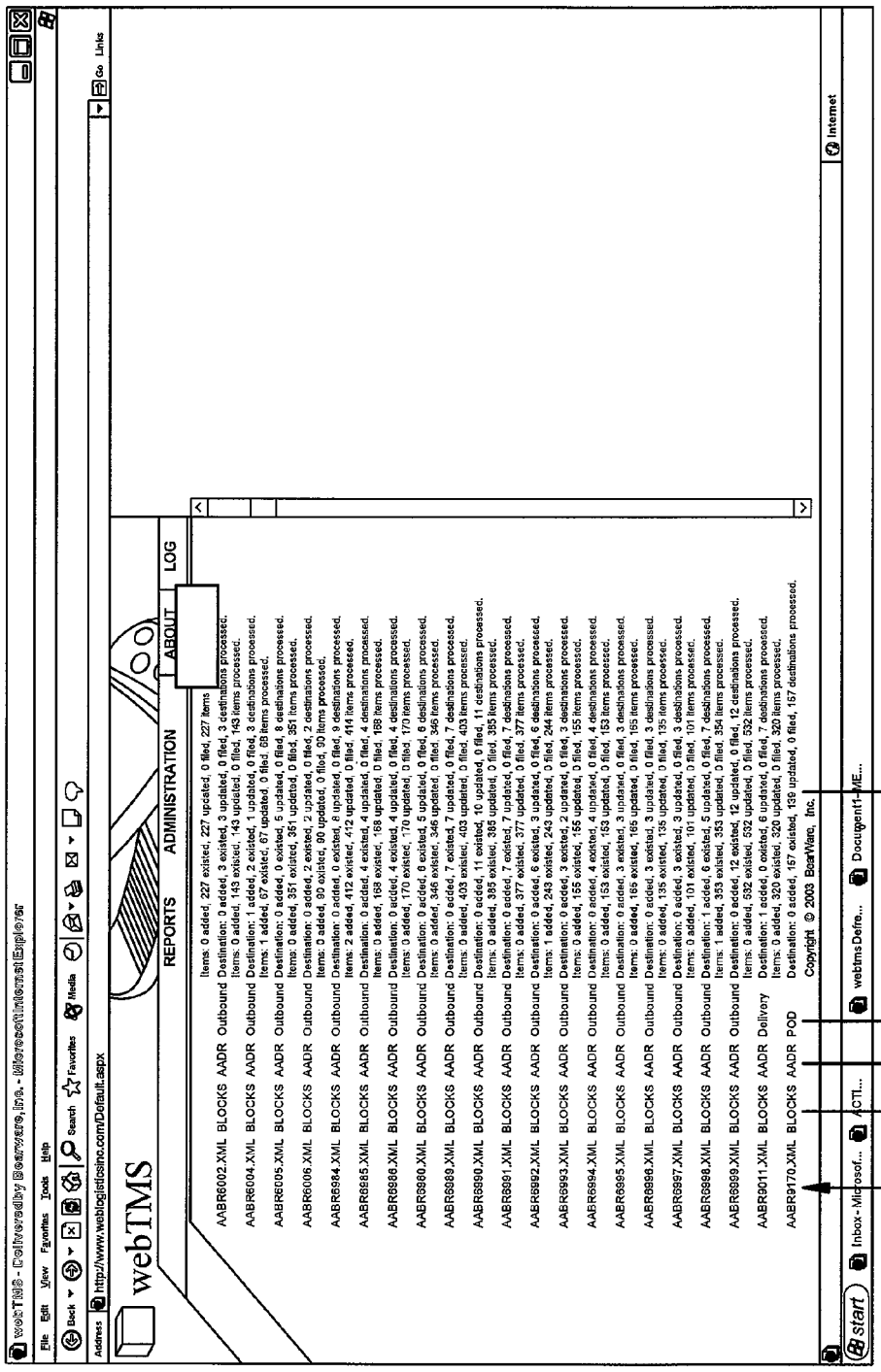

webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
9802
9804
9806
9808
9810

Figure 98

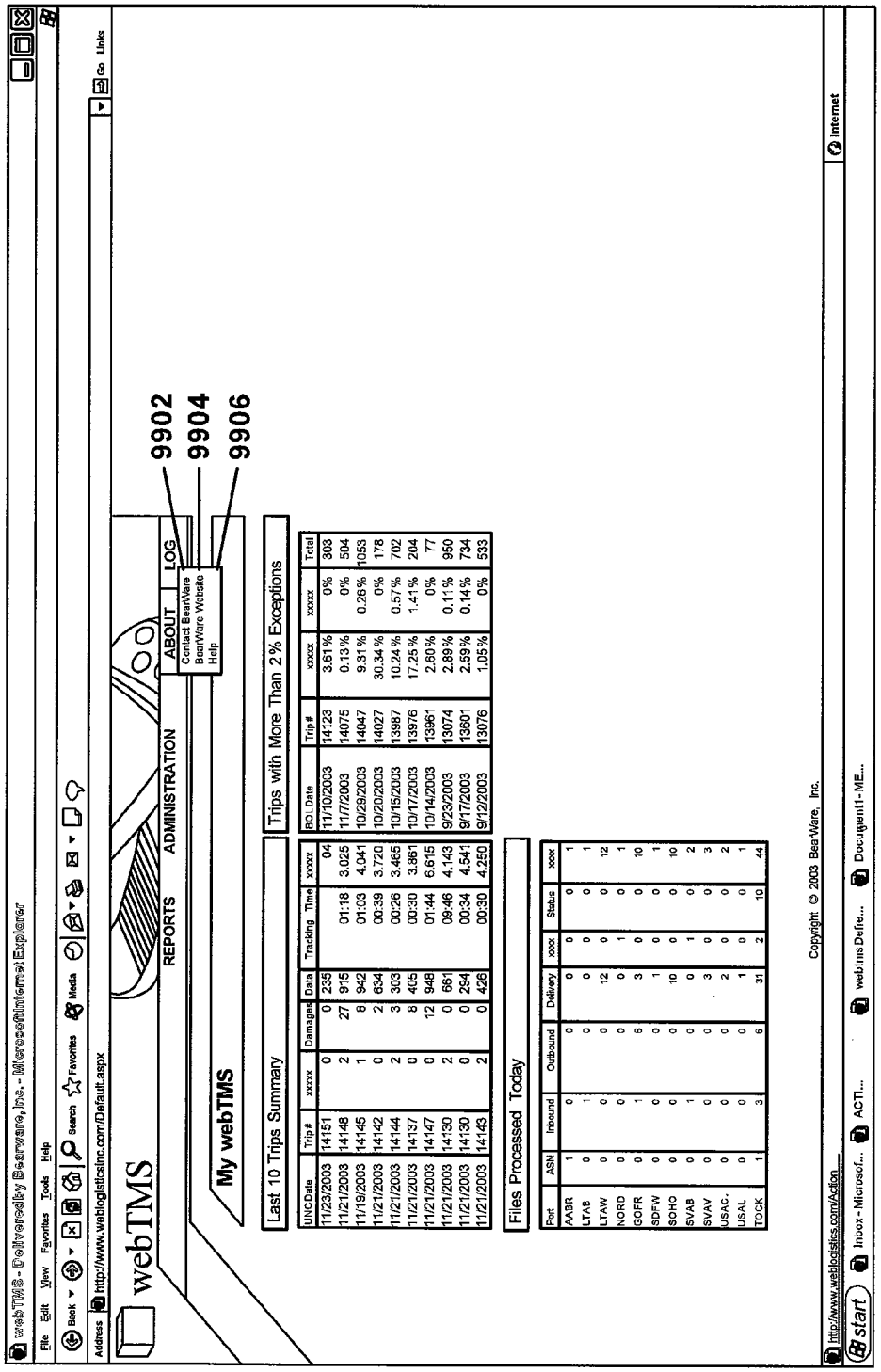

webTMS - Delivered by Seamware, Inc. - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://www.weblogisticsinc.com/Default.aspx
webTMS
REPORTS
ADMINISTRATION
ABOUT
LOG
Contact BeatWare
BeatWare Website
Help
My webTMS
9902
9904
9906
Last 10 Trips Summary
Trips with More Than 2% Exceptions
Files Processed Today
Copyright © 2003 BeatWare, Inc.
http://www.weblogistics.com/Action
Internet
start
Inbox - Microsof...
ACTI...
webTmsDefe...
Docugent1 - ME...

Figure 99

FREIGHT TRACKING AND CONTROL SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application claims the benefit of U.S. Provisional Application 60/439,130, filed Jan. 10, 2003.

BACKGROUND OF THE INVENTION

This invention is directed to a system and method for tracking and controlling goods as they move through the supply chain. More particularly, this invention is a supply chain event management system which generally includes four basic example components: (i) a handheld scanner application, (ii) a desktop application that transmits that data to a centralized server, (iii) a web service that parses the data and inserts it into a SQL database, and (iv) a web based reporting tool.

Supply chain management is a common problem for any organization that must transport goods over a wide geographic area. Successful businesses cannot afford to routinely lose goods or otherwise mismanage their supply chain. Unfortunately, until recently, many companies were forced to track goods by manually counting them as they left one point in the supply chain and were received at another. After counting the goods shipped and received, manually generated paper reports were prepared and mailed or faxed to management to identify shipment exceptions.

With the advent of computers, systems were created that partially automated the data collection and reporting process. Bar code scanners collected data at the consolidated shipment level, value added networks (VAN's) or file transfer protocol (FTP) processes were used to transmit electronic files between transportation companies and their shipping clients, company firewalls were modified to receive these electronic files, and, once this data was received, reports were created that could be distributed to decision makers.

While much better than paper and pencil, these systems were ultimately not accurate, efficient, or cost-effective. First, by tracking freight at only the shipment level, cartons and other individual freight items were invisible and could be lost in the supply chain. Second, transmitting electronic files using VAN's or an FTP process required companies to open their firewalls adding time, cost and increasing the possibility of security breaches. Finally, even when data made it through the company firewall, there was no secure method for a shipper and its transportation provider to view data using the same database or reports.

There is a need for a system which uses bar code scanning to track freight at the carton or item level at multiple points in the supply chain, a web service to directly insert data into a centralized data base, and internet based reports which can be accessed by multiple users via common web browsing tools.

SUMMARY OF THE INVENTION

In accordance with the present invention, there is provided a system and method for tracking and controlling the movement of goods and freight through the supply chain.

According to one aspect, the present invention provides an electronic system for managing items in a supply chain. The system generally includes item information capturing means adapted for capturing identification information associated with an item identified for supply chain management; mode specifying means adapted for receiving user input representative of a selection of at least one of a plurality of capturing modes, wherein each capturing mode is adapted for creating associated information by associating the captured item information with supply chain information; and transferring means adapted for transferring the associated information to an electronic storage device.

According to another aspect, the present invention provides a method for managing items in a supply chain. The method generally includes the steps of capturing identification information associated with an item identified for supply chain management; receiving user input representative of a selection of at least one of a plurality of capturing modes, wherein each capturing mode is adapted for creating associated information by associating the captured item information with supply chain information; and transferring the associated information to an electronic storage device.

These and other advantages, aspects, and features will be understood by one of ordinary skill in the art upon reading and understanding the specification.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a diagram illustrating an overview of the entire freight tracking and controlling system according to the present invention;

FIG. **2** is a diagram illustrating the Distribution Center Direct shipping model according to the present invention;

FIG. **3** is a diagram illustrating the Pool Distribution shipping model according to the present invention;

FIG. **4** is a diagram illustrating the Distribution Center Direct Consolidation Mode of the freight tracking and controlling system according to the present invention;

FIG. **5** is a diagram illustrating the Distribution Center Direct Grid Mode according to the present invention;

FIG. **6** is a diagram illustrating the Distribution Center Direct Truck Mode according to the present invention;

FIG. **7** is a diagram illustrating the Distribution Center Direct Delivery Mode according to the present invention;

FIG. **8** is a diagram illustrating the Welcome Screen for the Distribution Center Direct Scanning Application according to the present invention;

FIG. **9** is a diagram illustrating the Preferences Screen for the Distribution Center Direct Scanning Application according to the present invention;

FIG. **10** is a diagram illustrating the Scan Consolidation Items Screen of the scanner application according to the present invention;

FIG. **11** is a diagram illustrating a data filled Scan Consolidation Items Screen of the scanner application according to the present invention;

FIG. **12** is a diagram illustrating the Scan Grid Items Screen of the scanner application according to the present invention;

FIG. **13** is a diagram illustrating a data filled Scan Grid Items Screen of the scanner application according to the present invention;

FIG. **14** is a diagram illustrating the Scan Truck Items Screen of the scanner application according to the present invention;

FIG. **15** is a diagram illustrating a data filled Scan Truck Items Screen of the scanner application according to the present invention;

FIG. **16** is a diagram illustrating the Truck Inspection Screen from the Scan Truck Items mode of the scanner application according to the present invention.

FIG. **17** is a diagram illustrating the New Delivery Screen of the scanner application according to the present invention;

FIG. **18** is a diagram illustrating the Scan Delivery Items screen of the scanner application according to the present invention;

FIG. **19** is a diagram illustrating a data filled Scan Delivery Items screen of the scanner application according to the present invention;

FIG. **20** is a diagram showing the inbound scan process in the Pool Distribution model according to the present invention;

FIG. **21** is a diagram showing the outbound scan/integrity check scan process in the Pool Distribution model according to the present invention;

FIG. **22** is a diagram showing the delivery scan process in the Pool Distribution model according to the present invention;

FIG. **23** is a Welcome Screen of the Pool Distribution inbound/outbound scanning application according to the present invention;

FIG. **24** is a Preferences Screen of the Pool Distribution inbound/outbound scanning application according to the present invention;

FIG. **25** is an Inbound Trip Information Screen of the Pool Distribution inbound/outbound scanning application according to the present invention;

FIG. **26** is a Scan Cartons Screen of the Pool Distribution inbound/outbound scanning application according to the present invention;

FIG. **27** is a Carton Types Screen of the Pool Distribution inbound/outbound scanning application according to the present invention;

FIG. **28** is a Damages Type Screen of the Pool Distribution inbound/outbound scanning application according to the present invention;

FIG. **29** is a Manual Entry Screen of the Pool Distribution inbound/outbound scanning application according to the present invention;

FIG. **30** is a BearWare Data Transfer Module Screen of the freight tracking and controlling system according to the present invention;

FIG. **31** is a Welcome Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **32** is a Preferences Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **33** is a New Delivery Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **34** is a Scan Cartons Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **35** is a Delivery Reports Query Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **36** is a Delivery Reports Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **37** is a General Tab of the Carton Details Screen of the Delivery Report of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **38** is a Transfer Tab of the Carton Details Screen of the Delivery Report of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **39** is a Manual Entry Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **40** is a Numeric Keypad for the manual entry of carton numbers in the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **41** is a duplicate scan error message screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **42** is a misroute scan error message screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **43** is a Shipment Details Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **44** is a Store Representative Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **45** is a View Deliveries Screen of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **46** is a General Tab of the Delivery Details Report of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **47** is a Store Information Tab of the Delivery Details Report of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **48** is a Dates Tab of the Delivery Details Report of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **49** is a Events Tab of the Delivery Details Report of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **50** is a Cartons Tab of the Delivery Details Report of the Pool Distribution Delivery Scan Application according to the present invention;

FIG. **51** is a diagram illustrating how data is transferred from the desktop client application to the web-based SQL database;

FIG. **52** is a login screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **53** is a Welcome screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **54** is a scan summary report query screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **55** is a scan summary report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **56** is a bar code tracking report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **57** is a pallet tracking report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **58** is a WMS Box tracking report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **59** is a Pro Number Report Query screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **60** is a Pro Number Summary report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **61** is a Stem Time report query screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **62** is a Stem Time report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **63** is a Delivery Exception report query screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **64** is a Delivery Exception report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **65** is a Barcode tracking report query screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **66** is a Barcode tracking report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **67** is a WMS Box tracking report query screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **68** is a WMS Box tracking report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **69** is a Pallet tracking report query screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **70** is a Pallet tracking report screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **71** is a Bill of Lading query screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **72** is the Bill of Lading listing screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **73** is a Bill of Lading screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **74** is a Site Management screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **75** is a User Management screen of the web based Distribution Center Direct reporting application according to the present invention.

FIG. **76** is a Login screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **77** is a My WebTMS screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **78** is a ASN/Trip List query screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **79** is a ASN/Trip List report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **80** is a Trip Status report query screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **81** is a Trip Status report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **82** is a Trip Summary report query screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **83** is a Trip Summary report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **84** is a Delivery Summary report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **85** is a Trip Exceptions report query screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **86** is a Trip Exceptions report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **87** is a Delivery Exceptions report query screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **88** is a Delivery Exceptions report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **89** is a Scan Summary report query screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **90** is a Scan Summary report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **91** is a Store/Trip List report query screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **92** is a Store/Trip List report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **93** is a Carton Tracking report query screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **94** is a Carton Tracking report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **95** is a Administration Menu of the web based Pool Distribution reporting application according to the present invention.

FIG. **96** is a Import Summary report query screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **97** is a top portion of the Import summary report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **98** is a bottom portion of the Import summary report screen of the web based Pool Distribution reporting application according to the present invention.

FIG. **99** is a About Menu screen of the web based Pool Distribution reporting application according to the present invention.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT OVERVIEW

The present invention is directed to a supply chain event management system for tracking and controlling goods and freight using bar code scanners to collect data **102**, a desktop application to initially receive and transmit that data **104**, a web service to receive that data and insert it into a SQL database **106**, and a web-based reporting application **108**. A diagram giving an overview of the freight tracking and controlling system **100** is shown in FIG. **1**.

The present invention can be used in at least two points in the supply chain: (i) distribution center direct shipments and (ii) pool distribution shipments. In the distribution center direct model, goods are warehoused at a distribution center, customer orders are picked from inventory, and then delivered. A diagram illustrating the distribution center direct model is shown in FIG. **2**. In the pool distribution model, goods are also warehoused at a distribution center; however, they are not delivered to the customer directly from the distribution center. Goods for multiple delivery points in a single geographic area are loaded on a tractor trailer at a shipper's distribution center, shipped to a secondary, usually independent, warehouse ("pool distribution point") where the goods

are unloaded, sorted and segregated into single store orders. These orders are then shipped from the pool distributor to their ultimate delivery point. A diagram illustrating the distribution center direct model is shown in FIG. **3**.

In both the distribution center direct and pool distribution models, the starting point in the supply chain is a customer order **110**. These orders are processed by a warehouse management system ("WMS") **112**. The WMS generates instructions to warehouse personnel on which inventory at the distribution center should be processed for outbound shipment during a particular shipping cycle. This is generically referred to as an advance shipment notice ("ASN") **114**. The ASN is electronically transmitted to the web database **118** via an FTP transmission **116**.

In the distribution center direct model, the WMS generates an ASN **202** which consists of a customer order or aggregation of customer orders. Freight is scanned at the time it is picked out of the warehouse inventory. If the goods to be picked are small, they are scanned as they are consolidated into larger containers (macros or pallets, etc.) bound for the same delivery site **204**. Larger items and macros and pallets are scanned directly into a shipping grid **208**. The items in the shipping grids are then scanned onto the delivery truck **210** and again when they are delivered **212**. Goods from a vendor bound to the distribution ("vendor pickup") are also scanned at pickup and delivery to the distribution center **214**. A desktop application **104** is then used to upload and process the scan data **102**, and send the scan data to the web service **106** which inserts it into the web database **118**. Finally, a Web Reporting application **108** provides online data reporting and allows users **120** to make inquiries about the freight data stored in the web database **108**.

In the pool distribution model, the WMS generates the ASN **302** after goods have been prepared for outbound shipment and loaded onto a truck bound for a pool distribution point. The ASN represents a listing of goods that should have been shipped to the pool distribution point. The ASN is transmitted to the web database via an FTP transmission. Upon receipt of the goods at the pool distribution point, the freight is scanned ("inbound scan") **304**, sorted into individual store orders, and scanned again ("outbound scan") **306** to verify the integrity of the sortation, loaded onto trucks for store delivery and scanned at the store ("delivery scan") **308**. If freight is being picked up at the store for return to the shipper's distribution center or transferred to another store, the freight is scanned as it leaves the store ("returns or transfer scan") **310**. After the freight is scanned at each scan point, the desktop application is used to upload, process the scan data and then transmit it to the web database. A web reporting application is then used to provide online data reporting allowing users to make inquiries about the freight data stored in the web database.

Data Collection in the Distribution Center Direct Model Scan Points

In the distribution center direct model, Windows Pocket PC-based handheld scanners are used to collect data at the following points in the supply chain: (i) consolidation, (ii) grid, (iii) truck loading, (iv) delivery, and (v) vendor pickup.

Consolidation mode scanning **400**, as shown in FIG. **4**, is used to track smaller items as they are placed into larger shipping units such as a pallet, carton, tote or macro container. In the consolidation scanning mode, the user selects the Consolidation mode on the scanner **402**, scans or manually enters a macro or pallet barcode **404**, scans individual items into the macro or pallet **403**, and uploads the scan data to the Desktop application **408**.

Grid mode scanning **500**, as shown in FIG. **5**, is used when staging freight in outbound shipping grids. These grids are used to aggregate items such as pallets, macros, and large unconsolidated items bound for a single delivery site. A user first selects Grid Mode Scanning **502**, scans a barcode placed in a conspicuous area within each grid **504**, and then scans items from the consolidation mode (described above) or large non-consolidated items into the grid **506**. When finished scanning items into the grid, the user uploads the scan data to the desktop application **508**.

Truck mode scanning **600**, as shown in FIG. **6**, is used to scan items placed into a shipping grid onto a delivery truck. The truck mode can also be used to scan PRO number barcode labels when making a pickup at a vendor site. A user first selects the Truck mode scanning **602** and enters mode information **604**. This scanning mode then allows drivers to scan items from the Grid mode (described above) onto the truck **606**. When the user is finished scanning **608**, the user is prompted to enter vehicle inspection information **610**. Finally, the scan data is uploaded from the scan gun **612** to the desktop application **104**.

The Delivery mode scanning **700**, as shown in FIG. **7**, is used by the delivery driver when unloading freight from the truck at a delivery site. It is also used by a driver when unloading vendor pickup items at the distribution center. A user first selects the Delivery mode **702** then enters the mode information **704**. This scanning mode then allows drivers to scan the items from the Truck mode (described above) into the delivery point **706**. Once a user is finished scanning **708**, the scanned data is then uploaded from the scan gun **710**.

Using the Distribution Center Direct Scan Application

After selecting the scanner application from the application menu on the Windows Pocket PC scanner, the user is brought to the Welcome Screen **800**, as shown in FIG. **8**. The Welcome Screen **800** displays the date **802** and time **804**. A user can then choose which scan mode **102** to use, such as Consolidation **806**, Grid **808**, Truck **810**, or Delivery **812**. User Preferences **814** can also be set in the scanner.

By clicking on the Preferences button **814**, the Preference Screen **900** is displayed, as shown in FIG. **9**. The preferences screen **900** contains fields for user, route, originating location (i.e. "Plant"), and scanner ID. A user can enter a user ID **902**, a route number **904**, and a Plant number **906**. The scanner ID number is displayed also **908**. Once entered, this information can either be saved **910** or cancelled **912**. If the cancel button **912** is clicked, the changes are discarded and the user is returned to the Welcome screen **800**. If the Save Button **910** is tapped, the preferences set are recorded and the user is brought back to the Welcome Screen **800**.

As discussed above and as shown in FIG. **2**, the system allows users to scan items at five different scan point/modes, such as Consolidation Mode Scanning **204**, Grid Mode Scanning **208**, Load Truck Mode Scanning **210**, Delivery Mode Scanning **212**, and Vendor Pick-up Mode Scanning **214**.

Once the user selects the Consolidation mode on the scanner **806**, the user is brought to the Scan Consolidation Items screen as shown in FIG. **10**. The fields are carton class **1002**, and macro/pallet number **1004**. The screen also has a counter which maintains the number of items scanned into a macro or pallet **1006** and a timer indicating the elapsed time spent scanning items into a macro/pallet **1008**. FIG. **11** shows these

fields filled in after an item has been scanned in consolidation mode. The barcode number for the item scanned into the macro or pallet is displayed at the top of the screen **1102**. The item classification indicates the type of item placed into the macro or pallet **1104**. The macro/pallet number is displayed **1106**. The number of items scanned into the macro/pallet is displayed **1108** as is the elapsed time of the scanning session **1110**.

Additionally, the scanner application contains forward **1112**, backward **1114**, first **1116**, and last **1118** arrow buttons that will navigate the user through the scanned items. If the Cancel button **1120** is clicked, the information is reset on this screen. If the Delete button **1122** is clicked, the current scanned item will be deleted. If the Manual button **1124** is clicked, the user navigates to the Manual entry screen. If the Finish button **1126** is clicked, the scanning operation is complete and the user is returned to the Welcome screen **800**.

Once a user selects the Grid mode **808** on the Welcome Screen **800** of the scan application, the user is taken to the Scan Grid Items screen as shown in FIG. **12**. The Scan Grid Items screen **1200** contains fields for item classification **1202**, the grid number **1204**, and displays the number of items scanned into a grid in a specific scanning session **1206** and the elapsed time for the scanning session **1208**. FIG. **13** depicts this same screen with the data fields filled in. After scanning the grid label and an item into the grid, the barcode number of the scanned item is displayed at the top of the screen **1302**, the item classification is filled out **1304**, the grid number is displayed **1306**, the number of items scanned **1308** and the elapsed time **1310** are shown.

Additionally, the grid scan mode contains forward **1312**, backward **1314**, first **1316**, and last **1318** arrow buttons that will navigate the user through the scanned items. If the Cancel button **1320** is clicked, the information is reset on this screen. If the Delete button **1322** is clicked, the current scanned item will be deleted. If the Manual button **1324** is clicked, the user navigates to the Manual entry screen. If the Finish button **1326** is clicked, the scanning operation is complete and the user is returned to the Welcome screen **800**.

Once the user selects the Truck mode **810** on the Welcome Screen **800**, they are taken to the Scan Truck Items screen as shown in FIG. **14**. The Scan Truck Items screen **1400** contains fields for item classification **1402**, the delivery site **1404**, the number of items scanned **1406** and the elapsed time for the scanning session **1408** After the delivery site field is entered **1404**, the user proceeds to scanning freight onto the truck.

FIG. **15** shows the Scan Truck Items screen with data. The barcode number of the scanned item is displayed at the top of the screen **1502**, the item classification is filled out **1504**, the delivery site number is displayed **1506**, the number of items scanned **1508** and the elapsed time **1510** are shown. Additionally, the interface contains forward **1512**, backward **1514**, first **1516**, and last **1518** arrow buttons that will navigate the user through the scanned items. If the Cancel button **1520** is clicked, the information is reset on this screen. If the Delete button **1522** is clicked, the current scanned item will be deleted. If the Manual button **1524** is clicked, the user navigates to the Manual entry screen. If the Next button **1526** is clicked, the user is brought to the Inspection screen as shown in FIG. **16**. The inspection screen requires the user to insert the tractor number **1602**, the trailer number **1604** and the mileage **1606**. Once these fields are filled in the user selects the Finish button **1608** and is returned to the Welcome screen **800**. The Back button, if selected, takes the user back to the Scan Truck Items Screen **1500**.

Once the user selects the Delivery mode **812** from the Welcome Screen **800**, the user is brought to the New Delivery screen **1700** to enter the delivery site code **1702** shown in FIG. **17**. This code is entered by scanning a barcode label at the delivery site which then fills the Delivery Site field or the driver can tap the Set button **1703** and type in the delivery site code. After setting the delivery site, the user taps the Next button **1706** (or taps the Back button **1704** to return to the Welcome Screen). Tapping the Next button **1706** takes the user to the Scan Delivery Items screen **1800** as shown in FIG. **18**. Here the user begins scanning the barcodes of the items to be delivered. After scanning each item, the user selects the item class **1802** and whether the item is damaged **1804**. The Delivered Counter **1806** keeps track of the total number of items scanned and the Damaged Counter **1808** the total number of scanned items to which the user has assigned a damage designation. An elapsed time clock **1810** runs keeping track of the time from the entry into the Scan Delivery Items screen. If an item to be delivered does not have a barcode label on it, the user can tap the No Label button **1812** which assigns a carton number to the item. The user can tap the Cancel button to escape from the Delivery Scan mode. If the user taps the Delete button, the user removes the last scanned item from the scanner's memory. The Manual button **1814** is used if the barcode label is unreadable by the scanner. Tapping this button brings the user to a numerical keyboard to tap in the barcode number. FIG. **19** shows the Scan Delivery Items Screen with data entered. The barcode number is displayed **1902**, the item class **1904**, the damage designation **1906**, the delivered counter **1908**, damage counter **1910**, and elapsed time **1912**. When the delivery is completed, the user taps the Finish button **1914** and is brought back to the Welcome Screen **800**.

Users can also scan items that are picked up at vendor sites and brought back to the Distribution Center. At a vendor pickup site, the user selects the Truck Mode **810** from the Welcome Screen **800**. The user then enters the class **1402** and delivery site **1404**, which in the case of vendor pickup is a distribution center code, and then scans the vendor pick up/PRO# label. Upon arrival at the distribution center, the driver selects delivery mode **812** from the Welcome Screen **800**, enters the distribution center code **1702** and scans the freight.

Data Collection in the Pool Distribution Model Scan Points

In the pool distribution model, handheld scanners are used to collect data at various points in the supply chain including (i) inbound, (ii) outbound scan/integrity check, (iii) delivery, and (iv) pickup.

The inbound scanning process is shown in FIG. **20**. Inbound scanning occurs upon the arrival of a truck from a shipper's distribution center at a pool distribution site. Here the pool distributor selects inbound scanning mode on the scanner **2002**, enters information on the inbound load such as the trailer number, seal number, etc. **2004**, scans the freight off of the tractor trailer **2006**, and, when finished scanning all of the cartons on the trailer, uploads the data captured by the scanner to the desktop application **2008**.

The outbound scan/integrity check process is shown in FIG. **21**. Outbound scanning/integrity check scanning occurs after the initial receipt of the shipper's freight and the inbound scan. Once the freight that has been received is sorted and segregated by store order, the outbound scan/integrity check mode **2102** is selected, the store number of the order to be checked is entered into the scanner **2104**, and the cartons scanned **2106**. If in the process of scanning, a carton has been mis-sorted, the scanner will emit an audible tone and the

scanner will turn off. This alerts the user to an incorrect sortation. This scan also helps the pool distributor to catch any cartons that were not scanned inbound. After completing this scan, the data in the scanner is uploaded into the desktop application **2108**.

FIG. **22** shows the delivery scanning process. Delivery scanning is performed by the driver at the store when making a delivery. Delivery scanning can be performed in either batch or preload mode. In batch mode, the scanner simply collects the data from each barcode scanned. In preload mode, the barcode numbers of cartons expected to be delivered to a particular store are loaded into the scanner **2202**. When scanning a carton barcode at delivery, the scanner application compares the barcode scanned against the list of barcode carton numbers preloaded into the scanner for that store. If the barcode scanned matches the barcode preloaded, the scanner records a match. If the barcode scanned is not included in the preloaded list of cartons, the scanner records an overage. If at the end of scanning, all of the preloaded cartons are not scanned, the preloaded scanner application reports those cartons as shortages.

Whether the driver delivery scans in batch or preloaded mode, the scanning process is the same. After arriving at the store, the driver selects delivery mode on the scanner **2204**, and either scans a store barcode or manually enters the store number **2206** which records the time of arrival for on-time delivery performance reporting, and then begins to scan the cartons **2208**. If the driver needs to return to the truck to gather more cartons for the delivery, the driver checks out by scanning the store barcode and upon return scans the store barcode again to check in. This provides the pool distributor with a snapshot of the delivery process. At the conclusion of scanning all of the cartons, the driver enters the name of the store receiving personnel which ends the delivery scanning session. Upon return to the pool distributor's terminal, the scanner data is uploaded **2210** into the desktop application.

Using the Pool Distribution Scanner Application

After turning on the scanning device, the user must select the scanning program by tapping the BWICE icon on the screen. The user is then brought to the BearWare Inbound/Outbound Welcome Screen **2300** as shown in FIG. **23**. This screen displays the name of the program **2302**, the version number of the scanning software **2304**, buttons for the three scanning modes: inbound **2306**, outbound **2308**, and integrity check **2310**, a preferences button **2312**, the date and time **2314**, the user name **2316**, and the scanner number **2318**.

By tapping the Preferences button **2312**, the user is brought to the Preferences screen **2400** shown in FIG. **24**. Preferences are set prior to initiating each scanning session. Here the user's initials **2402** and the scanner identification number **2404** can be entered. Once this information is entered, the user selects the Save button **2406** to record his entries and return to the Welcome Screen **2300**. The user can select the Cancel button **2408** to reset the preferences screen.

Inbound scanning of freight is initiated by tapping the Inbound button **2306** on the Welcome Screen **2300**. This brings the user to the Inbound Trip Information Screen **2500** as shown in FIG. **25**. The user enters the shipper's company code **2502**, trip number **2504**, carrier **2506**, trailer number **2508**, seal number **2510**, and scanner user initials (if not already set in Preferences) **2512**. After entering this information the user taps the Next button **2514** to start scanning. If the user wants to return to the Welcome screen **2300**, they can tap the Back button **2516**.

While scanning freight, the Scan Cartons screen **2600** is displayed as shown in FIG. **26**. This screen gives the user the ability to select the type of freight being scanned and assign damage codes to it if necessary. If the user taps the Types button **2602** on the Scan Carton screen, they are brought to the Types screen **2700** shown in FIG. **27**. At the Types screen **2700**, the user can view the type previous selected **2702**. The user can select which type of item is being scanned: carton **2704**, envelope **2706**, sign pack **2708**, fixture **2710**, non-conveyable **2712**, weights **2714**, bag **2716**, hard tote **2718**, tube **2720**, or pallet **2722**. If the lock check box **2722** is selected, the presently selected item type will be assigned to all subsequently scanned items. By tapping the Back button **2724**, the user is brought back to the Scan Cartons screen. If the Damages button **2604** is selected on the Scan Cartons screen **2600**, the user is brought to the Damages screen **2800** shown in FIG. **28**. At the Damages screen, the user can view the damage type previously selected **2802**. The user can also select a type of damage: no damage **2804**, wet **2806**, torn **2808**, crushed **2810**, retaped **2812**, barcode damage **2814**, damages obvious **2816**, open **2818**, bursted overpacked **2820**, crushed underpacked **2822**. If the Lock box **2824** is selected after a damage type is tapped, that damage type will be assigned to all subsequently scanned items. By tapping the Back button **2826**, the user is brought back to the Scan Cartons screen **2600**.

If a barcode label is damaged or otherwise unscannable, the user can tap the Manual button **2606** on the Scan Cartons screen **2600** to get to the Manual Entry **2900** screen as shown in FIG. **29**. Once at the Manual Entry screen **2900**, the user selects the Carton Type **2902**, Division **2906**, Store Number **2908**, Carton Number **2910**, Damages **2912**, and Carton Class **2914**. The company is already displayed **2904**. After entering all of this information, the user taps the OK button **2916** to record the information and return to the Scan Cartons screen **2600** or taps the Cancel button **2918** to delete any entered information and return to the Scan Cartons screen **2600**.

After all of the cartons have been scanned, the user places the scanner in a cradle attached to a PC or connects to the PC using a wireless connection. The BearWare Data Transfer Module screen, FIG. **30**, is displayed on the PC screen as the data is being transferred to the PC.

When delivering freight to a store or other delivery point, the delivery scan mode is used. After tapping the delivery scan icon on the scanner, the user is brought to the Delivery Scan Welcome screen **3100** as shown in FIG. **31**. This screen shows the application name **3102** and version number **3104** and has four buttons: New Delivery **3106**, View Deliveries **3108**, Preferences **3110**, and Transfer Data to Payless **3112**. The Welcome Screen also shows the present time and date **3114**, the user's initials **3116**, the route number **3118**, and scanner number **3120**.

Tapping the Preferences Button **3110** brings the user to the Preferences screen **3200** shown in FIG. **32**. Here the user sets his three letter initials in the user box **3202**, the three digit route number **3204**, and two digit scanner number **3206**. Check boxes are provided for enabling store label scanning **3208**, scan back check **3210** and saving store numbers **3212**. The Enable Store Label scanning box **3208** will be checked when stores to which deliveries are made have barcode labels at their stores which are scanned to initiate a delivery scanning session. The Scan Back Check box **3210** will be selected if the user wants to have the scanner review the last fifty cartons for duplicate scans. The Save Store Number check box **3212** will be selected if the user wants the scanner to save store numbers that have been scanned in a store number pick list. The Clear button **3214** is used to clear all set preferences

and start over. Tapping the Cancel button **3218** will bring the user back to the Welcome Screen **3100**. After entering the preference data, tapping the Save button **3216** records the preferences and returns the user to the Welcome screen **3100**.

Tapping the New Delivery Button **3106** brings the user to the New Delivery Screen **3300** as shown in FIG. **33**. The user must first select whether this delivery is a Preloaded Delivery or a New (batch) Delivery. Preloaded delivery scanning refers to a process by which store delivery data is entered into the scanner prior to making the deliveries. When scanning in Preloaded Delivery mode, the scanned cartons are checked against the carton list in the scanner. Consequently, a user knows whether all cartons for a particular delivery have been scanned. If cartons are missing from the store order, the user can view a list showing which ones are missing. If no store data is preloaded into the scanner, scanning at delivery is done in "batch" or "data collection" mode. If scanning in preloaded mode, the Preloaded Delivery button **3302** will be highlighted. If scanning in batch or data collection mode, the New Delivery button **3304** will be highlighted.

When making a preloaded delivery, the user scrolls through the store list **3306** to select the store being delivered. By tapping the Next button **3308**, the user is brought to the Scan Cartons screen **3400** as shown in FIG. **34**. The Scan Cartons screen shows the Mode **3402** (delivery, pickup, etc.), the Delivery Type **3404** (Preloaded, Batch), the Carton Number scanned **3406**, whether the carton is damaged **3408**, the carton class **3410** and counters showing the total number of cartons expected to be delivered to the selected store **3412**, the actual number of cartons scanned **3414** and short **3416**, the number of cartons picked up **3418**, damaged **3420** or misrouted **3422**. A clock runs timing the length of the delivery **3424**.

By tapping the Reports button **3426** on the Scan Cartons Screen **3400**, the user is brought to the Delivery Reports Screen **3500** as shown in Figure **35**. From the pull down list **3502**, the user then can select what report to display: all cartons, delivered cartons, match cartons, non-cartons, or short cartons. For example, tapping the short carton menu option in the pull down menu **3502** will return a report screen **3600** as shown in FIG. **36**. This report displays a list of all cartons that were preloaded, but not scanned at delivery. If the user taps the carton number on the screen **3602**, the Carton Details button **3604** becomes active. By tapping on the Carton Details button **3604**, the user is brought to the Carton Details Report **3700** shown in FIG. **37**. Data displayed in the General Tab **3702** of this report are the carton number **3704**, the scan date and time **3706**, whether the carton was preloaded into the scanner **3708**, the preload status **3710**, the origin **3712**, the company **3714**, the company's division **3716**, the store number **3718**, the damage status **3720**, the scan mode **3722**, and carton class **3724**. Tapping the Transfer Details tab **3726** displays the information relating to the transfer of cartons from one store to another. The data displayed on this screen **3800**, FIG. **38**, is the carton number **3802**, the source of the carton **3804**, the transferred to store **3806** and transferred to division **3808**. When tapping the Close button on the reports screen **3728**, **3810**, the user is brought back to the Delivery Reports screen **3500**. Tapping the Close button **3504** on the delivery reports screen **3500** will bring the user back to the Scan Cartons Screen **3400**.

If the driver must return to the truck to get more cartons, the driver can tap the Check Out button **3428** which records the time leaving and re-entering the store and also locks the scanner so that no cartons can be scanned while the driver is checked out.

If a barcode label is unreadable by the scanner, the user can tap the Manual button **3430** which brings them to the Manual Entry screen **3900** shown in FIG. **39**. Here the user selects the Mode **3902**, the Carton Class **3904**, the Company **3906**, the Division **3908**, and Damage type **3914**, and enters the Store Number **3910**, and the Carton number **3912**. By tapping the Set buttons, the user is brought to a numerical keypad as shown in FIG. **40** to enter the store number and carton number. By tapping the OK button **3916** or Cancel button **3918**, the user is brought back to the Scan Cartons screen **3400**.

The user taps the Cancel button **3432** to exit the Delivery Scan screen. The user taps the Delete button **3434** to delete a scan.

If the user scans the same carton more than once, an error message **4100** such as shown in FIG. **41** is displayed telling the user that the carton has already been scanned or manually entered. The user must tap the OK button **4102** to clear this error message and begin scanning again. If the user scans a carton barcode which does not match the store number to which the carton is supposed to be delivered, another error message is displayed. This misroute error message **4200** is shown in FIG. **42**. The user must tap the OK button **4202** to clear this error message and begin scanning again.

When finished scanning all of the cartons to be delivered, the user taps the Finish button **3436**. This brings the user to the Accepted By screen **4300** shown in FIG. **43**. This screen displays shipment details relating to the most recent delivery scanning session: The company **4302**, the division **4304**, the store number **4306**, the number of cartons damaged **4308**, expected **4310**, misrouted **4312**, actually scanned **4314** and short **4316**, picked up **4318**, time elapsed for the delivery **4320**, and the return bill of lading number **4322** and transfer bill of lading number **4324**, if any. To finish the delivery, the user must enter the store representative's name. This is done by tapping the Set button **4326** which brings the user to the Store Representative screen **4400** shown in FIG. **44** where the user taps the appropriate letters to type the store representative's name. When finished, the user taps the OK button **4402** to return to the Accepted By screen **4300**. Once the store representative's name is entered, the user can select the Finish button **4328** to complete the delivery scanning session. Tapping the Back button **4330** will take the user back to the Scan Cartons screen **3400**.

From the Welcome Screen **3100**, the user can also access data on all delivery scans by tapping the View Deliveries **3108** button. This takes the user to the View Deliveries screen **4500** shown in FIG. **45**. This screen contains a list of all deliveries made and contains columns for the Company **4502**, the Division **4504**, the Store Number **4506** and the Status **4508**. By tapping the Back button **4510**, the user is taken to the Welcome Screen **3100**. If the user taps the Delete Button **4512**, the selected delivery will be deleted. By tapping a specific delivery line on the screen or selecting the delivery the user wants to see and tapping the Review button **4514**, the user is brought to the Delivery Details screen **4600** as shown in FIG. **46**. The Delivery Details Screen contains five tabs: General **4602**, Store Information **4604**, Dates **4606**, Events **4608** and Cartons **4610**.

The General Tab **4602** on the Delivery Details Report **4600** contains information on the status of the delivery **4612**, the late status **4614**, whether the delivery was preloaded **4616**, the company **4618**, division **4620**, store number **4622**, expected cartons to be delivered **4624**, the actual number of cartons delivered **4626** and brackets around any exceptions **4628**, the number of cartons picked up **4630**, damaged **4632** or misrouted **4634**, the return BOL number **4636** and transfer BOL number **4638**, if any. If the user taps the Reports button **4640**,

the user is taken to the Cartons tab on the Delivery Details Report **4610**. Tapping the Close button returns the user to the Welcome Screen **3100**.

The Store Information Tab **4700** on the Delivery Details Report, as shown in FIG. **47**, includes information concerning the store which can be preloaded into the scanner to assist the driver in making deliveries. The information that can be preloaded into the scanner and displayed in this report is the store location or address **4702**, the door number **4704**, the level number **4706**, the dock number **4708**, whether there are height restrictions **4710**, whether tolls must be paid in order to get to the store **4712**, an action message notice **4714**, an action message display box **4716** which if selected shows the action message, the stop number **4717**, and directions to the store **4718**. By tapping the Reports button **4720**, the user is brought to the Cartons tab **4610** on the Delivery Details Report. Tapping the Close Button **4722** takes the user back to the View Deliveries Screen **4500**.

The Dates Tab **4606** of the Delivery Details Report, as shown in Figure **48**, shows the user the scheduled start time for the delivery **4802**, the scheduled end time for the delivery **4804**, the actual start **4806** and end time **4808** of the delivery and the elapsed time it took to make the delivery **4810**. If the user taps the Reports button **4812**, the user is taken to the Cartons tab **4610** on the Delivery Details Report. Tapping the Close Button **4814** takes the user back to the View Deliveries Screen **4500**.

The Events Tab, as shown in FIG. **49**, shows the user when the delivery driver entered and left the store during the delivery process. The columns in the report are C for record number **4902**, the Event **4904**, Date **4906**, and O for Origin **4908**. The C record reflects the type of event. The Event column contains either the store open or close scan or check in or check out scans. The Date column gives the date and time for each event. The Origin column lists whether the event data was obtained by scanning the store barcode or manually entered. If the user taps the Reports button **4910**, the user is taken to the Cartons tab **4610** on the Delivery Details Report. Tapping the Close Button **4912** takes the user back to the View Deliveries Screen **4500**.

The Cartons Tab, as shown in FIG. **50**, details all cartons scanned at the selected store. The header of the report **5002** lists how many pages of carton detail information are held in the scanner. The columns in this report are the carton number **5004**, scan time **5006**, damage **5008**, origin **5010**, pickup or delivery **5012**, and carton class **5014**. The carton number column contains the entire carton number scanned. The time column contains the time stamp when the carton was scanned. The damage column displays the damage status per carton. The origin column shows whether the carton was entered via a scan or manual entry. The pickup column shows whether the carton was scanned as a delivery into the store ("D") or as a pickup ("P") for cartons that are being taken by the driver for return to the shipper or transfer to another store. The class column shows the type of item scanned: carton, tube, envelope, etc. By selecting a carton, the Carton Details button **5016** becomes activated. Tapping the Carton Details button takes the user to the Carton Details screen **3700**. If the user taps the Reports button **5018**, the user is taken to the Cartons tab **4610** on the Delivery Details Report. The user can also navigate from the page to page of the report by using the back and forward arrow buttons **5020**. Tapping the Close Button **5022** takes the user back to the View Deliveries Screen.

Desktop Application and Web Service

Regardless of the whether the freight tracking and control system is used for the distribution direct or pool distribution model, the data collected by the scanners must be transferred to the SQL database on the web server so that users can use the data to generate reports. The data can be transferred from the scanner to the workstation via a cradle attached by a serial cable or via a wireless connection.

When the scanner is placed into the cradle or the wireless connection is initiated, the data transfer application is started and BearWare Data Transfer Module screen **3000** is displayed on the PC monitor. This is also referred to as the Client Application **5102** as shown in FIG. **51**. This screen displays the name of the scanner device **3002**, has a meter showing the status of the data transfer **3004**, lists the version number of the transfer program **3006**, and has a check box **3008** for automatically closing the BearWare Data Transfer application upon completion of the data transfer.

The outbound data packets contain a SOAP envelope and the scanner data in XML format **5104**. The data leaves the workstation on which the client application is running via HTTP through port **80**. This allows the scan data to be transferred to the web service **5106** without opening any ports on the company's firewall or otherwise compromising the sending or receiving company's internet security. When the SOAP envelope is received by the web server, the web service **5106** parses the scanner data **5108** and inserts it into the SQL database **5110**. After the scanner data is successfully inserted into the SQL database, a confirmation from the web service is sent to the client application **5102** and the scan data is automatically deleted from the scanner. In addition to the scan data that is passed via the BearWare Data Transfer Module, the web service can receive and parse tab delimited text files from shippers, such as the ASN.

Once the scan data has been inserted into the web database via the web service, users can navigate to the web based reporting application to query the web database which contains all of the scan data and ASN data.

Web-Based Reporting Tool

The web reporting applications are accessed by a user navigating to it with a standard internet browser application (i.e. Microsoft Internet Explorer 5.xx) and entering the correct web address (i.e. www.weblogisticsinc.com). Depending on the web address entered, the user is brought to the Distribution Center Direct Reports or the Pool Distribution reports.

Distribution Center Direct Reports

After entering in the correct web address in their internet browser application, the user is brought to the login screen as shown in FIG. **52**. At this screen, the user types in their user name **5202** and password **5204** and then clicks on the login button **5206**. The user is then brought to the Welcome Screen as shown in FIG. **53**. From the Welcome Screen, the user can navigate to the following reports and information: Scan Summary **5302**, Pro # Summary **5304**, Stem Time Report **5306**, Delivery Exceptions **5308**, Barcode Tracking **5310**, WMS Box Tracking **5312**, Pallet Tracking **5314**, Bill of Lading **5316**, Site Management **5518**, User Management **5320**, and Help **5322**.

The user can obtain a scan summary report by clicking on the scan summary menu option **5302**. This will bring the user to the scan summary menu **5400** shown in FIG. **54**. The user can choose the type of scan data **5402** they wish to view (pick, consolidation, delivery, etc.), enter a plant **5404** or site ID **5406**, and enter a date range **5408** to frame their query. The report can also show only no-label items if the no-label box is checked **5410**. The report can be returned in Microsoft Excel

format if the excel report box **5410** is checked. After entering this query data and the View Report **5414** box is selected, a report **5500** is returned as shown in FIG. **55**. The header of the report lists the report name **5502** and the date range of the report **5504**. The report details the scanner user **5506**, the scanner ID **5508**, the route **5510**, plant **5512**, site **5514**, barcode **5516**, item description **5518**, scan time **5520**, pallet number **5522**, and box number **5524**. The barcode **5516**, pallet **5522**, and box **5524** numbers in the table are all hot linked to other reports. By clicking on the barcode number, the user is brought to the Bar Code Tracking Report shown in FIG. **56**. By clicking on the Pallet Number, the user is brought to the Pallet Tracking report shown in FIG. **57**. The WMS Box Tracking Report, shown in FIG. **58**, is accessed by clicking on the box number in the scan summary report.

The Pro # Summary report is used to track vendor pickups or other freight to which PRO number barcode labels are attached and can be accessed by clicking on this option **5304** from the Report Menu. This brings the user to the PRO # Report Query Screen **5900** shown in FIG. **59**. Here the user selects the Scanner Mode (Truck/Pickup or Delivery) **5902**, and selects a date range using the Start and End Date Calendars **5904**. By clicking on the View Report button **5906**, the query is run and the Pro # Summary Report **6200**, shown in FIG. **60**, retrieved. In the header of the report, the report name **6002** and scanner mode **6004** are listed as is the date range **6006** for which the report was run. The columns in this report are the scanner user name **6008**, the scanner number **6010**, the route number **6012**, the plant number **6014**, the site **6016**, the barcode number **6018**, the description of the scanned item **6020**, the scan time **6022**, the pallet number **6024**, the box number **6026** and the tractor number **6028**. The barcode number **6018** contains a hotlink to the Bar Code Tracking Report **5600**.

The Stem Time Report shows the time elapsed between when a delivery truck left the distribution center to the time a delivery is concluded. After clicking on this report option **5306** from the Report Menu, the user is brought to the Stem Time Report Query Screen **6100** shown in FIG. **61**. Here the user selects the plant **6102** and site **6104** from drop down menus and clicks on a date range from the Start Date and End Date calendars **6106**. Once this query is run by clicking the View Report button **6108**, the Stem Time Report **6200**, shown in FIG. **62**, is returned. The header of the report lists the name of the report **6202** and the date range selected **6204**. The report itself contains columns for the BOL number **6206**, route number **6208**, originating plant number **6210**, delivery site **6212**, number of items **6214**, departure time **6216**, arrival time **6418**, and time span **6220**. The BOL number **6206** contains a hot link that if clicked takes the user to the Bill of Lading for that particular load.

The Delivery Exceptions Report lists all items which were scanned onto a truck at the distribution center, but were not scanned at a delivery site. By clicking on this report option from the Report Menu **5308**, the user is taken to the Delivery Exceptions Report Query Screen **6300** shown in FIG. **63**. To return a delivery exceptions report, the user selects the exception type (shortages, overages, damages, all exceptions) **6302**, the plant **6304**, the site **6306**, and a date range from the Start Date and End Date Calendars **6308** and clicks on the View Report button **6310**. The header of the Delivery Exceptions Report **6400** shown in FIG. **64** provides the name of the report **6402** and exception type queried **6404** along with the date range selected **6406**. The columns in the report are the scanner user **6408**, the scan gun number **6410**, the route number **6412**, the originating plant **6414**, the delivery site **6416**, the barcode number **6418**, a description of the item **6420**, the date and time that the item was scanned onto the delivery truck at the distribution center **6422**, the pallet number **6424**, the box number **6426**, and the tractor number **6428**. Numbers in the barcode, pallet and box columns contain hotlinks. Clicking on the barcode number **6418** takes the user to the Barcode Tracking Report **5600**. Clicking on the pallet number **6424** takes the user to the Pallet Tracking Report **7000**. The WMS Box Tracking Report **6800** is accessed if the Box number **6426** is clicked.

The user can track individual items that have been scanned and obtain a scan history by clicking on the barcode tracking menu option **5310**. This will bring the user to the barcode tracking query menu **6500** shown in FIG. **65**. The user enters a barcode number **6502** on this screen and clicks the view report button **6504**. This brings the user to the screen **6600** shown in FIG. **66**. The header of this report lists the barcode number **6602**, the item type **6604**, and the destination site **6606**. The columns in this report are the scan point **6608**, the scan date and time **6610**, the scan user **6612** and the scan gun ID **6614**. A check mark in the box to the left of the Scan Point column indicates that scan data for that mode has been received.

The user can track individual items that a shipper groups into individual shipments at the shipment, container, box or bill of lading level. This is referred to as "WMS box tracking" (and is also referred to as "trip," "trailer" or "load" tracking) and these reports can be accessed by clicking on the WMS box tracking menu option **5312**. This will bring the user to the WMS box tracking query menu **6700** shown in FIG. **67**. The user enters a WMS box number **6902** on this screen and clicks the view report button **6704**. This brings the user to the WMS Box Tracking Report **6800** shown in FIG. **68** which details all items that are grouped by a shipper together at the bill of lading or box level. The header of this report lists the box number queried **6802** and the destination site **6804**. The columns in the report are the barcode number **6806**, the description of the item scanned **6808**, the pallet number **6810**, box number **6812**, the carton number **6814**, and whether it was scanned in the consolidation **6816**, grid **6818**, truck **6820** and delivery scan **6822** modes. Hotlinks are provided for the barcode **6806** and pallet numbers **6810** to the Barcode Tracking Report **5600** and the Pallet Tracking Report **7000**.

The user can track individual items that a shipper groups onto pallets or into containers. This is referred to as "pallet tracking" and these reports can be accessed by clicking on the Pallet tracking menu option **5314**. This will bring the user to the pallet tracking query menu **6900** shown in FIG. **69**. The user enters a pallet number **6902** on this screen and clicks the view report button **6904**. This brings the user to the Pallet Tracking Report **7000** screen shown in FIG. **70**. The header of this report lists the pallet number **7002** and the destination site **7004**. The column headings are the barcode numbers of the items scanned onto the pallet **7006**, the description of the scanned item **7008**, the pallet number **7010**, the box number **7012**, the carton number **7014**, and whether the pallet was scanned in the consolidation **7016**, grid **7018**, truck **7020** and delivery **7022** scan modes. Hotlinks are provided for the barcode **7006** and box number **7012** to the Barcode Tracking Report **5800** and the WMS Box Tracking Report **6800**.

The Bill of Lading menu option **5316** is used to create bills of lading after items are scanned onto a truck at the distribution center. After clicking on the Bill of Lading menu option **5316** from the Reports Menu, the user is brought to the Bill of Lading Query Menu **7100** as shown in FIG. **71**. Here the user simply selects a date range **7102** and clicks the View BOL's button **7104**. The user is then brought to a list of bills of lading which can be printed as shown in FIG. **72**. The header of this

report list the name of the report **7202** and the date range selected **7204**. The user can select the bill of lading to be printed by reviewing the BOL number **7206**, route **7208**, originating plant number **7210**, delivery site code **7212**, tractor number **7214**, date scanned onto the truck **7216**, or the received by **7218** information on the report. By clicking on the hotlink BOL number **7206**, the user is brought to the bill of lading shown in FIG. **73** which can be used by the driver when making the delivery.

The bill of lading contains the name of the carrier **7302**, the BOL number **7304**, the address of the originating distribution center **7306**, the BOL print date **7308**, the name and address of the site to which the load is to be delivered **7310**, a description of the items loaded on the truck to be delivered by type of item **7312**, the barcode number **7314**, pallet number (if any) **7316**, box number **7318**, and carton number **7320**. At the bottom of the bill of lading is an area for the consignee to sign for the goods received **7322**. Below the list of goods shipped, is an area listing the shipper **7322**, the carrier **7324**, and boxes to enter the carrier vendor number **7326**, prepared by **7328**, the shipper's phone number **7330**, the driver name **7332**, and consignee signature **7334**.

The web based reporting system also includes site management tools. The Site Management tool is accessed by clicking on the Site Management Menu option **5318** on the Report Menu **5300**. Once this menu option is accessed, the user is brought to the Site Management screen **7400** shown in FIG. **74**. This tool allows the user to edit delivery sites and their corresponding addresses and other information by selecting one from the pull down menu **7402**. The user can then save the changes **7404**, delete a site **7406** or add a new one **7408**.

The User Management tool is accessed by clicking on the User Management Menu option **5320** on the Report Menu **5300**. Once this menu option is accessed, the user is brought to the User Management screen **7500** shown in FIG. **75**. This tool allows the user to edit users their corresponding user names, passsword and permissions by selecting one from the pull down menu **7502**. The user can then save the changes **7504**, delete a site **7506** or add a new one **7508**.

The Help menu option **5322**, if clicked, will take the user to online user documentation which can be either reviewed on line or printed on a local printer.

Pool Distribution Reports

After entering in the correct web address in their internet browser application, the user is brought to the login screen **7600** shown in FIG. **76**. At this screen, the user types in their user name **7602** and password **7604** and then presses enter or moves their curser and clicks on the sign in button **7606**.

After signing in the user is brought to the My webTMS screen **7700** shown in FIG. **77**. This screen shows summary report information such as a summary of the last ten trips **7702**, trips with more than 2% exceptions **7704**, and files processed by the web service **7706**. The My webTMS screen is customizable by user.

Reports are accessed by the user by selecting the desired report from the pull down reports menu **7707**. The available reports found in the pull down reports menu are the ASN/Trip List **7708**, Trip Status **7710**, Trip Summary **7712**, Trip Exceptions **7714**, Delivery Exceptions **7716**, Scan Summary **7718**, Store/Trip List **7720**, and Carton Tracking **7722**.

By selecting the ASN/Trip List item **7708** from the Reports drop down menu **7707**, the user is brought to the ASN/Trip List selection screen **7800** shown in FIG. **78**. Here the user selects the shipper or pool distributor **7802**, and a date range **7804** and then clicks on the Get Data button **7806**. This sends a query to the web database to display a list of all inbound shipments to a particular pool distributor or by a particular shipper for a specific period of time. If the user would like the ASN/Trip list returned in Excel spreadsheet format, the user would click on the Excel format button **7808**.

Once the query has been retrieved, the ASN/Trip List **7900** is displayed as shown in FIG. **79**. The header of the report **7902** lists the query parameters: the pool distributor and date range. The ASN/Trip List is made up of the following columns: BOL Date **7904**, Trip Number **7906**, Pool **7908**, Carrier **7910**, Trailer Arrival **7912**, ASN Total **7914**, OS&D Exceptions **7916**, Delivery Scans **7918**, Proof of Deliveries ("POD's") **8120**, and Total **7922**. The report also lists the total number of records returned by the query **7924**. The BOL Date **7904** is the date that an ASN transmission was sent by a shipper and received by the web database. The Trip Number **7906** is a unique number assigned to a specific aggregation of freight which is loaded on a trailer for a specific pool distributor. The Pool column **7908** contains a four letter unique designation for a specific pool distributor. Carrier **7910** refers to the trucking company bringing the freight from the shipper to the pool distributor. The date and time contained in the Trailer Arrival column **7912** is the date and time the trailer from the shipper was received by the pool distributor. ASN Total **7914** is the total number of pieces of freight that a shipper believes is being sent to a pool distributor for store delivery. OS&D Exceptions **7916** refers to "overs, shorts, and damages." Overs refer to cartons received by the pool which were not in the ASN; cartons which the shipper did not know that it sent to the pool distributor. Shorts refer to cartons that were in the ASN, but were not received by the pool distributor. Damages refer to cartons that were damaged in some way upon receipt at the pool distributor. The number in the OS&D Exceptions column is a total of all overs, shorts and damages for a particular trip. Delivery Scans **7918** refer to the total number of cartons in a particular trip that were scanned at delivery. POD's **7920** refer to the total number of cartons in a particular trip that were verified received by the pool distributor. By selecting the Excel Format box **7926**, the user can have the ASN/Trip List downloaded as an Excel spreadsheet.

There are a number of "hot links" on the ASN/Trip List which take the user directly to other reports if selected. By clicking on a date in the BOL Date column **7904**, the user is brought to the Trip Status report for that trip. By clicking on a trip number in the Trip # column **7906**, the user is brought to the Trip Summary report for that trip. By clicking on the number in the OS&D Exceptions column **7916**, the user is brought to the Trip Exceptions report for that trip. By clicking on a number in the Total column **7922**, the user is brought to the Scan Summary Report for that trip.

The Trip Status Report can be accessed by selecting the Trip Status Report option **7710** from the Reports Menu **7707**. This brings the user to the Trip Status Report query screen **8000** shown in FIG. **80**. Here the user selects the company from a pull down list **8002** and enters the trip number **8004** and then clicks on the Get Data button **8006**. The user is then brought to the Trip Status Report **8100**.

The Trip Status Report shown in FIG. **81** consists of two parts: Trip Details **8102** and Timestamps **8104**. The Trip Details section **8102** gives information on the load as received by the pool distributor. The Timestamps section **8104** lists the date and time of various events relating to a particular trip. The Trip Details section of the Trip Status Report displays the trip number **8106**, the shipper **8108**, the pool distributor **8110**, the carrier who brought the freight from the shipper to the pool distributor **8112**, the BOL Date **8114**, the District **8116**

and Distribution Center (DC) **8118**, the load number **8120**, the trailer number **8122**, the Driver Number **8124** and Name of the driver of the shipment from the shipper to the pool distributor **8126**, the percentage of the trailer that was filled with freight ("load percentage") **8128**, the seal number **8130**, whether the seal was intact on receipt **8132**, the seal origin **8134**, the load condition **8136**, the total number of items in the trailer **8138** and the number of exceptions **8340**. The Timestamps section of the report includes the date and time for the departure of the truck from the shipper to go to the pool distributor **8142**, the planned arrival of that shipment at the pool distributor **8144**, the actual arrival time of the shipment at the pool distributor **8146**, the time when unloading of the freight started **8148** and stopped **8150**, the time when the first **8154** and last **8156** carton were scanned, and the time when the driver of the truck was released at the completion of unloading the truck **8152**.

There are "hotlinks" on the Trip Status Report. By clicking on the Trip Number **8106**, the user is brought to the Trip Summary Report for that particular trip. By clicking on the Total Items number **8130**, the user is brought to the Scan Summary Report for that particular trip. The Trip Status Report also contains Previous **8158** and Next buttons **8160**. By clicking on these buttons, the user is brought to the previous or next trip number.

By selecting the Trip Summary item **7712** from the Reports drop down menu **7707**, the user is brought to the Trip Summary selection screen **8200** shown in FIG. **82**. Here the user selects the company **8202** and selects a trip from a list **8204** of the last one hundred trips in the web database or types in the requested trip **8406** and then clicks on the Get Data button **8208**. If the user wants to display the Trip Summary data in an excel spreadsheet form, they click on the Excel Format box **8410**. The Trip Status report **8100** for the selected trip can also be accessed by clicking on the Trip Status box **8212** after selecting the company and trip number. This sends a query to the web database to display a store level summary of all cartons shipped on a particular trip.

The Trip Summary Report **8300** shown in FIG. **83** displays the queried trip information on the top of the report: the shipper **8302**, the pool **8304**, the trip number **8306**, and the BOL date **8308**. The columns on the report are store number **8310**, BOL number **8312**, ASN total **8314**, OS&D Exceptions **8316**, Delivery Scans **8318**, POD's **8320**, and Total Items **8322**. The Store Number **8310** is the identification number given by a shipper to a particular store or delivery point. The BOL number **8312** is a number assigned to a particular aggregation of freight that is being delivered to a store on a certain date. The ASN Total **8314** is the number of pieces that the shipper believes sent to that store for the selected trip. The OS&D Exceptions column **8316** contains the number of over, short or damaged cartons for the referenced store and trip number. Delivery Scans **8318** refers to the number of pieces scanned at the store by the driver for the trip. POD's **8320** refers to the number of pieces for which delivery data was entered for a store for the trip. Total Items **8322** refers to the total number of cartons that were available for delivery for that store: the ASN Total less short cartons and plus over cartons. The user can access the Trip Status report **8100** for this trip by clicking on the Trip Status button **8324**. The numbers in the Store column are hotlinks. If the user clicks on the store number **8310**, the Delivery Summary Report **8400** as shown in FIG. **84** for that trip is displayed.

The header of the Delivery Summary Report lists the shipper **8402**, the pool distributor **8404**, the trip number **8406**, and the delivery date **8408**. The columns in this report are the barcode **8410**, the carton number **8412**, the delivery scan date and time **8414** and the POD date and time **8416**. This report shows information on all cartons delivered to a store on a particular date. The barcode number **8412** contains a hotlink to the Carton Tracking Report **9400**.

The Trip Exceptions Report is accessed by selecting the Trip Exceptions option **7714** from the Reports pull down menu **7707**. This brings the user to the Trip Exceptions selection screen **8500** shown in FIG. **85**. Here the user selects the company **8502** and the trip number from a list **8504** of the last one hundred trips. To get the Trip Exceptions Report the user clicks on the Get Data Button **8506**. The user can also navigate to delivery exceptions and the trip status reports **8100** by clicking on delivery exception **8508** and trip status **8510** buttons.

The Trip Exceptions report **8600** shown in FIG. **86** lists all discrepancies found between what the shipper thought was shipped in good condition and what the pool distributor inbound scanned. In the header of the report is listed the shipper name **8602**, the pool name **8604**, the trip number **8606** and the BOL date **8608**. The columns of the report are Store Number **8610**, Barcode Number **8612**, Status **8614**, Reason **8616**, Resolution **8618**, Damage **8620**, and Repair **8622**. The store number column **8610** contains the shipper's store number for which a particular carton with exceptions was to be delivered. The barcode number column **8612** contains the barcode number of the particular carton which was an exception. The Status column **8614** lists the exception status of the carton: match, shortage, overage, out of area, or duplicate. The Reason column **8616** lists the reason the carton was an exception. The Resolution column **8618** details how the pool distributor dealt with the exception carton. The Damage column **8620** lists the type of damage associated with the carton. The Repair **8622** column details how the pool distributor dealt with the damaged carton. At the bottom of the report exceptions, damages, and total trip exceptions are totaled **8624**. The user is also able to navigate to the trip status **8626** and delivery exceptions **8628** reports for the trip shown in the header **8606** from this screen. Hotlinks are provided in this report from the store number **8610** and barcode number **8612**. The store number **8610** if clicked takes the user to the Delivery Summary Report **8400** and the barcode number **8612** to the Carton Tracking Report **9700**.

The Delivery Exceptions Report lists all cartons which were expected to be delivered to a store, but were not. The Delivery Exceptions Report is accessed by selecting the report **7716** from the Reports drop down menu **7707**. After this selection is made the user is brought to the Delivery Exceptions Query Screen **8700** shown in FIG. **87**. At this screen the user selects the company **8702**, the trip **8704**, and the exception mode (ASN v. Delivery/POD; Inbound v. Outbound; Inbound v. Delivery/POD) **8706** and then clicks on the Get Data Button **8708**. The user is then brought to the Delivery Exception Report **8800** shown in FIG. **88**. In the header of the report are listed the shipper **8802**, the pool **8804**, the trip number **8806** and the BOL Date **8808**. The columns in the report are the store number **8810**, the barcode number **8812**, the status **9814**, the ASN Timestamp **8816**, and Delivery Timestamp **8818**. Hotlinks on this report are the store number **8810** which takes the user to the Delivery Summary Report **8400** and the barcode number **8812** which takes the user to the Carton Tracking Report **9400**.

The Scan Summary Report is accessed by selecting the report **7718** from the Reports drop down menu **7707**. This report lists all cartons scanned in all modes for a particular trip. After selecting the Scan Summary Report menu option, the user is brought to the Scan Summary Query Screen **8900** shown in FIG. **89**. Here the user selects the company **8902**,

and either enters a trip number **8906** or selects a trip number from the pull down list **8904**. After clicking on the Get Data Button **8908**, the user is brought to the Scan Summary Report **9000** shown in FIG. **90**. In the header of the report are listed the shipper **9002**, the pool **9004**, the trip number **9006** and the BOL Date **9208**. The columns in this report are the store number **9210**, the barcode number **9212**, **9012** ASN **9014**, Inbound **9016**, Outbound **9018**, Delivery **9020**, and POD **9022**. The date and time in the ASN, Inbound, Outbound, Delivery and POD columns reflect the time when the listed carton passed through that scan point. Hotlinks on this report are the store number **9010** which takes the user to the Delivery Summary Report **8400** and the barcode number **9012** which takes the user to the Carton Tracking Report **9400**.

The Store/Trip List provides the user with a historical summary of deliveries made to a particular store over a given time frame. The Store/Trip List Report is accessed by selecting the report **7720** from the Reports drop down menu **7707**. The user is then brought to the Store/Trip List Query Screen **9100** shown in FIG. **91** where they select the company **9102** and the store number **9104** and click on the Get Data button **9306**. This takes the user to the Store/Trip List **9200** shown in FIG. **92**. Here the user sees a historical summary of deliveries to the selected store. The columns in this report are BOL Date **9202**, Trip Number **9204**, Driver Name **9206**, Signee **9208**, Delivery Start **9210**, Delivery End **9212**, Time **9214**, and Total **9216**. The BOL Date **9202** is the date on which the ASN was received on the web database; the Trip Number **9204** is the number associated with a particular load of freight from the shipper; the Driver Name **9206** is the name of the driver who delivered the shipper's freight to the store; the signee name **9208** is the name of the store personnel who signed for the delivery; the Delivery Start **9210** and End **9212** are the timestamps entered by the driver into the scanner prior to and at the end of making the delivery; time **9214** refers to elapsed time between the delivery start and end; total **9216** is the total number of cartons delivered to the store.

The report contains hotlinks as well. By clicking on the BOL Date **9202** or Total **9216** the user is brought to the Delivery Summary Report **8400**. This report lists all cartons delivered to a particular store for a particular trip. The header of the report lists the shipper **8402**, the pool **8404**, the trip number **8406**, and the delivery date **8408**. In the body of the report are listed the barcode **8410**, the carton number **8412** and the delivery scan date and time **8414**, the POD time stamp **8416**, damages **8418**, and any repair to a damaged carton **8420**. By clicking on the Trip Number in the Store/Trip List **9204**, the user is brought to the Trip Summary Report **8300**.

The Carton Tracking Report is used to display summary information on a particular carton. From the Reports pull down menu **7707**, the user selects Carton Tracking **7722** to get to the Carton Tracking Query Screen **9300** shown in FIG. **93**. Here the user selects the company **9302**, enters a carton number **9304** or the complete barcode number **9306** and clicks on the Get Data Button **9308**. From there, the user is brought to the Carton Tracking Report **9400** shown in FIG. **94**. This Report contains three parts: the Trip Information **9402**, Item Details **9404**, and Scanning History **9406**. The Trip Information **9402** portion of the report lists the shipper **9408**, the pool **9410**, the trip number **9412** and the store **9414** where the carton was to be delivered. The Item Details **9404** section of the report lists the barcode number **9416**, the carton number **9418**, a UPS Tracking Number **9420**, the status **9422**, the reason **9424**, resolution **9426**, damage **9428**, repair **9430**, carton weight **9432**, carton cube **9434** and carton units **9436**. The Scanning History **9406** section of the report sets forth the scanning mode **9438**, the origin of the data (scanned or manual) **9440**, the scan date and time **9442**, the scan user **9444** and the scan gun number **9446** for each scan point.

The pool distribution web-based reports also have an administration component. The administration tools are accessed from the Administration drop down menu **9500** shown in FIG. **95**. The two administration options are import summary **9502**, and user management **9504**.

The Import Summary Report lists all files transmitted by particular shippers and pool distributors to the web service for a selected day. This report is accessed by clicking on the Import Summary Menu option **9502**. Clicking on this menu option takes the user to the Import Summary Query Screen **9600** shown in FIG. **96**. Here the user enters the date for which they want an import summary **9602** and click on the Get Data button **9604**. The user is then taken to the import summary report **9700** shown in FIG. **97**. The import summary report breaks down the files received by Retailer (Shipper) **9702** and Pool **9704**. The columns in the report are Sender **9706**, ASN **9708**, Inbound **9710**, Outbound **9712**, Delivery **9714**, POD **9716**, Stores **9718**, and Total **9720**. By scrolling down the page **9722**, the user views more detailed information on the files imported. A sample of this portion of the report is shown in FIG. **98**. Here the file name is shown **9802**, the shipper for whom the file pertains **9804**, the pool distributor who sent the file **9806**, the type of file **9808**, and information on the addition of the file to the database **9810**.

The About Menu option shown in FIG. **99** contains three options: Contact BearWare **9902** which opens the user's email application and fills in the addressee box to bearware@bearwareinc.com, BearWare Website **9904** which takes the user to BearWare's website, www.bearwareinc-.com, and Help **9906** which takes the user to online documentation on the use of the web application.

Although the preferred embodiment has been described in detail, it should be understood that various changes, substitutions, and alterations can be made therein without departing from the spirit and scope of the invention. It will be appreciated that various changes in the details, materials and arrangements of parts, which have been herein described and illustrated in order to explain the nature of the invention, may be made by those skilled in the area within the principle and scope of the invention.

What is claimed is:

1. An electronic system for managing items in an associated pool distribution supply chain for pooled distribution of the items to one or more associated destinations via an associated pooled transport distribution system, the electronic system comprising:

an input scanner configured to selectively first capture item identification information associated with a plurality of received items, the plurality of received items being associated with a plurality of unique shipper sources and delivery destinations, and each of the plurality of items being identified for supply chain management in the associated pooled transport distribution system;

a capturing mode specifying input on the input scanner, the capturing mode specifying input being configured to receive first user input corresponding to a selection of at least one of a plurality of capturing modes, wherein each capturing mode is configured to create association information data by associating the first captured item identification information with pool distribution supply chain information;

an outbound scan integrity check input on the input scanner, the outbound scan integrity check input being one of the plurality of capturing modes and being configured to receive second user input corresponding to a user-se-

lected sorted consolidation of groups of the plurality of items associated with the plurality of unique shipper sources prior to delivery of the plurality of items to associated selected destinations of the one or more associated destinations, the user-selected sorted consolidation of groups of the plurality of items grouping a first set of items of the plurality of items according to a selected first destination of the one or more associated destinations together with a second set of items of the plurality of items according to a selected second destination of the one or more associated destinations as a pooled group of items to be delivered in accordance with the pool distribution supply chain information to the associated selected destinations of the one or more associated destinations, the outbound scan integrity check input being adapted for second capturing item identification information for each item of the pooled group of items for determining a mis-sorted item amongst the pooled group of items comprising the first and second sets of items by comparing the second captured item identification information with data associated with the selected destinations;

a communication port configured to communicate the association information data and the first and second captured item identification information to a data storage device for storage, the association information data and the first and second captured item identification information being communicated to the data storage device to selectively commence distribution of each item of the first and second sets of items of the pooled group to the associated selected destinations in accordance with specified consolidation and routing data;

a delivery scanner configured to, upon arrival for delivery of the first or second sets of items to their corresponding selected destinations, receive data associated with the corresponding selected destination and record a delivery arrival time, and to receive the specified consolidation and routing data as preload delivery data and receive third user input corresponding to the first or second sets of items of the pooled group of items being delivered to the first or second destination corresponding thereto, the delivery scanner being configured to receive, by selectively scanning each delivered item of the pooled group of items, third captured item identification information for each delivered item of the pooled group of items, and determining an elapsed delivery time for the first or second set of items in accordance with the delivery arrival time and a corresponding delivery end time, and determining a correspondence between the preload delivery data, the third user input, and the third captured item identification information, and classifying in accordance with the determined correspondence each delivered item of the pooled group of items as a one of a delivered item, a mis-delivered item, an un-delivered item, or an over-delivered item; and,

a report output generating report data representative of the elapsed delivery time for each of the first and second sets of items and a result of the determining by the outbound integrity check input and the classifying by the delivery scanner.

2. The system of claim **1**, wherein the communication port comprises at least one of a physical connection to the data storage device or a wireless connection to the data storage device.

3. The system of claim **1**, wherein the communication port comprises an Internet connection for selective communication with the data storage device.

4. The system of claim **1**, wherein the data storage device comprises means adapted for formatting the associated information in accordance with an input user request.

5. The system of claim **1**, wherein:

the first set of items of the pooled group of items is associated with a first shipper in accordance with the item identification information;

the second set of items of the pooled group of items is associated with a second shipper in accordance with the item identification information; and

the association information data and the first and second captured item identification information being communicated to the associated data storage device selectively commencing the distribution comprises commencing distribution by the pool distributor of the first set of items of the first shipper together with the second set of items of the second shipper on a single route specified by a user-selected consolidation mode.

6. The system of claim **1**, wherein the outbound scan integrity check input is configured to generate a signal in accordance with a result of the determining of the mis-sorted item.

7. The system of claim **1**, wherein the outbound scan integrity check input is configured to determine the mis-sorted item as being a non-member of the first or second sets of items.

8. The system of claim **1**, wherein the delivery scanner is configured to generate a warning signal in accordance a result of the determining being a mis-delivered item or an over-delivered item.

9. The system of claim **1**, wherein the delivery input is configured to determine a mis-delivered or an over-delivered item as not being a member of the first or second set of items to be delivered.

10. The system of claim **1**, wherein the delivery input is configured to determine an undelivered, mis-delivered or over-delivered item as being a new item unidentified for the supply chain management by a comparison between item identification information contained in the preload delivery data stored in a scanning device for a specific destination and the third captured item identification information acquired by the scanning device.

11. A method for managing items in an associated pool distribution supply chain for pooled distribution of the items to one or more destinations via an associated pooled transport distribution system, the method comprising:

first capturing, by an input device in a pooled transport distribution computer comprising a processor and a data storage device, item identification information associated with a plurality of received items, the plurality of received items being associated with a plurality of unique shipper sources and delivery destinations, and each of the plurality of items being identified for supply chain management in the associated pooled transport distribution system;

receiving, by a capturing mode specifying input on the input device, first user input corresponding to a selection of at least one of a plurality of capturing modes, wherein each capturing mode is configured to create association information data by associating the first captured item identification information with pool distribution supply chain information;

receiving, by an outbound scan integrity check input being one of the plurality of capturing modes of the input device, second user input corresponding to user-selected consolidation relative to a sorted consolidation of groups of the plurality of items associated with the plurality of unique shipper sources prior to delivery of the

plurality of items to associated selected destinations of the one or more associated destinations, the user-selected sorted consolidation of groups of the plurality of items grouping a first set of items of the plurality of items according to a selected first destination of the one or more associated destinations together with a second set of items of the plurality of items according to a selected second destination of the one or more associated destinations as a pooled group of items to be delivered in accordance with the pool distribution supply chain information to the associated destinations of the one or more associated destinations, the outbound scan integrity checking further comprising second capturing item identification information for each item of the pooled group of items for determining a mis-sorted item amongst the pooled group of items comprising the first and second sets of items by comparing the second captured item identification information with data associated with the selected destinations;

communicating, by a communication port of the pooled transport distribution computer, the association information data and the first and second captured item identification information to the data storage device for storage, the association information data and the first and second captured item identification information being communicated to the data storage device selectively commencing distribution of each item of the first and second sets of items of the pooled group to the associated selected destinations in accordance with specified consolidation and routing data;

receiving by a delivery device upon arrival for delivery of the first or second sets of items to their corresponding selected destinations, data associated with the corresponding selected destination and record a delivery arrival time, and receiving the specified consolidation and routing data as preload delivery data, and receiving third user input corresponding to the first and second sets of items of the pooled group of items being delivered to the first or second destination corresponding thereto, the delivery scanning further comprising receiving third captured item identification information for each delivered item of the pooled group of items and determining an elapsed delivery time for the first or second set of items in accordance with the delivery arrival time and a corresponding delivery end time, and determining a correspondence between the preload delivery data, the third user input, and the third captured item identification information, and classifying in accordance with the determined correspondence each delivered item of the pooled group of items as a one of a delivered item, a mis-delivered item, an un-delivered item, or an over-delivered item; and,

generating by a report output of the pooled transport distribution computer report data representative of the elapsed delivery time for each of the first and second sets of items and a result of the outbound scan integrity checking and the classifying by the delivery scanning.

12. The method of claim **11**, wherein the communicating comprises at least one of physically connecting with the data storage device or wirelessly connecting with the data storage device.

13. The method of claim **11**, further comprising accessing the data storage device through an Internet connection.

14. The method of claim **13**, further comprising formatting, by the data storage device, the associated information in accordance with an input user request.

15. The method of claim **11**, further comprising: associating the first set of items of the pooled group of items with a first shipper in accordance with the item identification information;

associating the second set of items of the pooled group of items with a second shipper in accordance with the item identification information; and

commencing distribution by the pool distributor of the first set of items of the first shipper together with the second set of items of the second shipper on a single route specified by a user-selected consolidation mode.

16. A tangible computer readable medium storing instructions for controlling operation of a pooled transport distribution computer including a processor and a data storage device, the pooled transport distribution computer for managing items in an associated pool distribution supply chain for pooled distribution via an associated pooled transport distribution system of the items to one or more associated destinations, the tangible computer readable medium instructions comprising:

item information capturing instructions comprising first capturing item identification information associated with a plurality of received items, the plurality of received items being associated with a plurality of unique shipper sources and delivery destinations, each of the plurality of items being identified for supply chain management in the associated pooled transport distribution system, the item information capturing instructions performed by controlling an input device of the pooled transport distribution computer;

mode specifying instructions comprising receiving first user input corresponding to a selection of at least one of a plurality of capturing modes, wherein each capturing mode is configured to create association information data by associating the first captured item identification information with pool distribution supply chain information, the mode specifying instructions performed by controlling the input device;

outbound scan integrity check instructions comprising receiving second user input corresponding to a user-selected sorted consolidation of groups of the plurality if items associated with the plurality of unique shipper sources prior to delivery of the plurality of items to associated selected destinations of the one or more associated destinations, the user-selected sorted consolidation of groups of the plurality of items grouping a first set of items of the plurality of items according to a selected first destination of the one or more associated destinations together with a second set of items of the plurality of items according to a selected second destination of the one or more associated destinations as a pooled group of items to be delivered in accordance with the pool distribution supply chain information to the associated destinations of the one or more associated destinations, the outbound scan integrity check instructions further controlling the input device for second capturing item identification information for each item of the pooled group of items for determining a mis-sorted item amongst the pooled group of items comprising the first and second sets of items by comparing the second captured item identification information with data associated with the selected destinations, the outbound scan integrity check instructions performed by controlling the input device in accordance with one of the plurality of capturing modes;

communicating instructions comprising communicating the association information data and the first and second captured item identification information to the data stor-

age device for storage, the association information data and the first and second captured item identification information being communicated to the data storage device selectively commencing distribution of each item of the first and second sets of items of the pooled group to the associated selected destinations in accordance with specified consolidation and routing data, the communicating instruction performed by controlling a communication port of the pooled transport distribution computer;

delivery scan instructions comprising, upon arrival for delivery of the first or second sets of items to their corresponding selected destinations, receiving data associated with the corresponding selected destination and recording a delivery arrival time, and receiving the specified consolidation and routing data as preload delivery data and receiving third user input corresponding to the first or second sets of items of the pooled group of items being delivered to the first or second destination corresponding thereto, the delivery scan instructions controlling a delivery device to receive by selectively scanning each delivered item of the pooled group of items, third captured item identification information for each delivered item of the pooled group of items, and determining an elapsed delivery time for the first or second set of items in accordance with the delivery arrival time and a corresponding delivery end time, and determining a correspondence between the preload delivery data, the third user input, and the third captured item identification information, and classifying in accordance with the correspondence each delivered item of the pooled group of items as a one of a delivered item, a mis-delivered item, an un-delivered item, or an over-delivered item, the delivery scan instructions performed by controlling the delivery device of the pooled transport distribution computer; and,

reporting instructions comprising generating report data representative of the elapsed delivery time for each of the first and second sets of items and a result of the determining by the outbound integrity check instructions and the delivery and classifying instructions, the reporting instructions performed by controlling a report output of the pooled transport distribution computer.

17. The medium of claim **16**, wherein the communicating instructions comprise instructions for communicating by at least one of a physical connection to the data storage device or a wireless connection to the data storage device.

18. The medium of claim **16**, further comprising instructions for accessing the data storage device through an Internet connection.

19. The medium of claim **18**, further comprising instructions for formatting the associated information in accordance with an input user request.

20. The medium of claim **16**, wherein:

the first set of items of the pooled group of items is associated with a first shipper in accordance with the item identification information;

the second set of items of the pooled group of items is associated with a second shipper in accordance with the item identification information; and

the outbound scan integrity check instructions comprise instructions for commencing distribution by the pool distributor of the first set of items of the first shipper together with the second set of items of the second shipper on a single route specified by a user-selected consolidation mode.

21. A computer implemented method performed by an associated electronic system for managing items in an associated pool distribution supply chain for pooled distribution of the items to one or more destinations via an associated pooled transport distribution system, the computer implemented method comprising:

first capturing, by an input device of the associated electronic system, item identification information associated with a plurality of received items, the plurality of received items being associated with a plurality of unique shipper sources and delivery destinations, and each of the plurality of items being identified for supply chain management in the associated pooled transport distribution system;

receiving, by a capturing mode specifying input on the input device of the associated system, first user input corresponding to a selection of at least one of a plurality of capturing modes, wherein each capturing mode is configured to create association information data by associating the first captured item identification information with pool distribution supply chain information;

receiving, by an outbound scan integrity check input being one of the plurality of capturing modes of the input device of the associated system, second user input corresponding to a user-selected sorted consolidation of groups of the plurality of items associated with the plurality of unique shipper sources prior to delivery of the plurality of items to associated selected destinations of the one or more associated destinations, the user-selected sorted consolidation of groups of the plurality of items grouping a first set of items of the plurality of items according to a selected first destination of the one or more associated destinations together with a second set of items of the plurality of items according to a selected second destination of the one or more associated destinations as a pooled group of items to be delivered in accordance with the pool distribution supply chain information to the associated destinations of the one or more associated destinations, the outbound scan integrity check input further receiving second capturing item identification information for each item of the pooled group of items for determining a mis-sorted item amongst the pooled group of items comprising the first and second sets of items by comparing the second captured item identification information with data associated with the selected destinations;

communicating, by a communication port of the associated system, the association information data and the first and second captured item identification information to an associated data storage device of the associated electronic system for storage, the association information data and the first and second captured item identification information being communicated to the associated data storage device selectively commencing distribution of each item of the first and second sets of items of the pooled group to the associated selected destinations in accordance with consolidation and routing data;

upon arrival for delivery of the first or second sets of items to their corresponding selected destinations, receiving by a delivery device of the associated system data associated with the corresponding selected destination and a recorded delivery arrival time, and receiving the specified consolidation and routing data as preload delivery data, and receiving third user input corresponding to the first or second sets of items of the pooled group of items being delivered to the first or second destinations corresponding thereto, and the delivery scanning further com-

prising receiving, by selectively scanning each delivered item of the pooled group of items, third captured item identification information for each delivered item of the pooled group of items, and determining an elapsed delivery time for the first or second set of items in accordance with the delivery arrival time and a corresponding delivery end time, and determining a correspondence between the preload delivery data, the third user input, and the third captured item identification information, and classifying in accordance with the determined correspondence each delivered item of the pooled group of items as a one of a delivered item, a mis-delivered item, an un-delivered item, or an over-delivered item; and,

generating by a report output of the associated system report data representative of the elapsed delivery time for each of the first and second sets of items and a result of the outbound scan integrity checking and the classifying by the delivery scanning.

22. The method of claim **21**, further comprising accessing the data storage device through an Internet connection.

23. The method of claim **22**, further comprising formatting the association information data in the data storage device in accordance with an input user request.

24. The method of claim **21**, further comprising:

associating the first set of items of the pooled group of items with a first shipper in accordance with the item identification information;

associating the second set of items of the pooled group of items with a second shipper in accordance with the item identification information; and

commencing distribution by the pool distributor of the first set of items of the first shipper together with the second set of items of the second shipper on a single route specified by a user-selected consolidation mode.

* * * * *